

**FACULTY OF EDUCATION  
DEPARTMENT OF EDUCATION  
B.Ed.DEGREE PROGRAMME  
TWO YEAR PROGRAMME  
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**FACULTY OF EDUCATION**  
**DEPARTMENT OF EDUCATION**  
**B.Ed.DEGREE PROGRAMME**  
**TWO YEAR PROGRAMME**  
**(2015-2016 ONWARDS)**  
**REGULATIONS AND SYLLABUS**  
**REGULATIONS**

**1. Duration of the Programme**

The programme is for a period of 2 years(Non Semester).

**2. Medium of Instruction**

The medium of instruction will be in English. The Tamil medium will be offered only to the graduates who have opted Pedagogy Course-I as Tamil.

**3. Eligibility Criteria**

- i. The candidates should have undergone 10+2+3 (15) or 11+1+3 (15) pattern of study and passed qualifying examinations conducted by the respective State Board or CBSE or any other recognized Board of Education/Examination and UG Degree Examination of the UGC Recognized Universities in any one of the school subjects offered by the Directorate of School Education at the Secondary/Higher Secondary Educational Level.
- ii. Engineering and Technology candidates should have undergone 10+2+4(16) pattern of study and passed qualifying examinations conducted by the recognised universities.
- iii. Candidates who have passed the UG or PG Degree in Open University System without Qualifying in 11 years SSLC examination and 1 year of pre-university course (PUC) examination (or) 10+2 pattern of school Education examination shall not be considered for admission.
- iv. Candidates who have taken more than one main subject in Part-III/Part-IV under (Double/Triple major system) of the UG degree should have to choose only one of the main subjects and should have applied for that optional only. In such cases, marks obtained by the candidate in two/three major subjects shall be taken into account to arrive at the percentage of marks as stipulated in item(viii).
- v. Candidates who have passed under Additional Degree Programme with less than three years duration are not eligible for admission.
- vi. Candidates who have passed under Four year dual Degree Programme with two major subjects under Part-III are not eligible for admission.
- vii. Candidates who have qualified in PG Degree (Five year integrated Degree Programmes) under 10+2+5 or 11+1+5 pattern of study shall be considered for admission. In such cases, the marks obtained by the candidates in the PG shall be taken into account for admission to the B.Ed Degree Programme.
- viii. a. Engineering and Technology candidates can apply for mathematics or physical science.

- b. Candidates who have done their UG degree in Applied Mathematics can apply for Mathematics.
  - c. Candidates who have done their UG degree in Applied Physics, Geophysics, Biophysics and Electronics can apply for Physical Science.
  - d. Candidates who have done their UG Degree in Biochemistry and Applied Chemistry can apply for Physical Science.
  - e. Candidates who have done their UG Degree in Biotechnology and Plant Biology & Plant Biotechnology can apply for Natural Science.
  - f. Candidates who have done their UG Degree in Environmental Science and Microbiology can apply for Natural Science.
  - g. Post Graduate candidates in Economics and Commerce with 50% (irrespective of their UG marks) of marks in PG degree or inter disciplinary subjects which are being declared equivalent by the respective University can apply.
  - h. The candidates qualified in PG degree and secured 50% of marks with the same major subjects in UG Degree but not fulfilling the minimum percentage of marks required in UG degree as per community/category – wise will be eligible.
  - i. Candidates who have done their UG in the school subjects are eligible for admission to B.Ed. for others they have to obtain an equivalence certificate for the respective subjects from the concerned Universities to consider their admission to B.Ed. degree programme. The decision of the University shall be final in this regard.
  - j. Candidates who have done their UG without the language Tamil or other Indian Languages under Part-I and are awarded degree with English and Main subjects concerned need to be considered for admission to B.Ed. subject to the condition that they have to qualify in Tamil Language Test conducted by the TNPSC for the purpose of employment.
- ix. Candidates with the following marks in the Bachelor's Degree are eligible for admission to the course other than subjects like Economics and Commerce for which PG qualification is mandatory.

Community/Category	Minimum Marks
OC	50%
BC	45%
MBC/DNC	43%
SC/SCA/ST	40%
Physically and Visually Challenged	40%

Note: For Engineering and Technology students, they should have specialized in science and mathematics with 55% of marks or other qualification equivalent thereto. The candidates belonging to SC, ST categories should have scored a minimum of 50% marks.

- a. Marks obtained by the candidates in UG degree under Part-III/IV Major/Elective/Allied/Extra Disciplinary subjects including practical (other than subjects Economics and Commerce) alone shall be taken into

account to arrive at the percentage of marks mentioned above. Marks obtained under Part-V subjects shall not be taken into account to arrive at the percentage of marks.

- b. Marks obtained by the candidates in PG degree ( other than Economics, Commerce) shall not be considered for admission.
- c. Rounding of marks to the next higher integer shall not be permitted.
- d. The candidates who have qualified in Bachelor's Degree under Open University System after passing 10<sup>th</sup> Std. and +2 examinations shall alone be considered for admission to B.Ed. Degree Course.
- e. The Candidates who have qualified in Bachelors degree under Open University System without passing 10<sup>th</sup> and +2 examination and subsequently passing 10<sup>th</sup> and +2 examinations are not eligible for admission to B.Ed degree Programme.
- f. Candidates who have passed PG degree in Economics and Commerce without undergoing 10+2+3 or 11+1+3 pattern of education shall not be considered for admission.
- i. In the case of Differently Abled, Physically and Visually Challenged Candidates, a minimum pass in the degree is enough.

However, the basis of selection shall be in accordance with the regulations of the University/Government of Tamil Nadu Guidelines for admission to B.Ed. Programme in force from time to time.

#### 4. Programme Framework

Year	Working Days	Working Hours	Marks		Credits		Total	
			Theory	Practical	Theory	Practical	Marks	Credits
First Year	200	600	500	500	20	20	1000	40
Second Year	200	600	400	600	16	24	1000	40

#### 5. Programme Content

The programme of study, which shall last for two academic years shall comprise of the following:

#### STRUCTURE OF CURRICULUM FOR (BOTH YEARS)

Sl.No		Courses	Marks	Credits
<b>Part – A: Theory Components</b>				
I.	<b>GROUP–A</b> CoreCourses	CC 1. Basics of education	100	4
		CC 2. Psychology of Learner and Learning	100	4
		CC 3. Schooling, Socialisation and Identity	100	4
		CC 4. Curriculum and School	100	4
		CC 5. Vision of Education in India: Concerns and Issues	100	4
II.	<b>GROUP–B</b> Pedagogical Courses	PCI: Pedagogical Course–I (Part–I)	100	4
		PCI: Pedagogical Course–I (Part–II)	100	4
		PCII: Pedagogical Course–II (Part–I)	100	4
		PCII: Pedagogical Course–II (Part–II)	100	4
<b>Part–B: Practicum Components</b>				

Sl.No		Courses	Marks	Credits
III.	GROUP-C Developing Teacher Sensibilities	Teacher Enrichment Activities		
		TEA-1. Strengthening Language Proficiency	50	2
		TEA-2. Enriching Learning Through ICT	50	2
		TEA-3. Health and Physical Education (Part-I)	25	1
		TEA-4. Health and Physical Education (Part-II)	25	1
		TEA-5. Arts & Aesthetics(Part-I)	25	1
		TEA-6. Arts & Aesthetics(Part-II)	25	1
		TEA-7. Yoga Education	50	2
		TEA-8. Exploring Learning Resources	50	2
		TEA-9. Community Camp/ Educational Tour	50	2
		TEA-10. Psychological Testing and Case study	50	2
		TEA-11. Enhancing Teaching Skills	50	2
		TEA-12. Preparation of Instructional Software	50	2
		Social and Environmental Sensitivity Activities		
		SESA-1. Assessment for Learning(Part-I)	50	2
		SESA-2. Assessment for Learning (Part-II)	50	2
		SESA-3. Gender Issues in Education	50	2
		SESA-4. Education for Peace	50	2
		SESA-5. Issues of Conservation and Environmental Regeneration	50	2
		SESA-6. Addressing Special Needs in Classroom	50	2
School Internship	300	12		
<b>TOTAL</b>			<b>2000</b>	<b>80</b>

#### DISTRIBUTION OF COURSES FOR THE FIRST YEAR

Sl.No		Courses	Marks	Credits
<b>Part-A: Theory Components</b>				
I.	GROUP-A Core Courses	<b>CC-1 : Basics of Education</b>	100	4
		<b>CC-2 : Psychology of Learner and Learning</b>	100	4
		<b>CC-3 : Schooling, Socialisation and Identity</b>	100	4
II.	GROUP-B Pedagogical Courses	<b>PC-I: Pedagogical Course-I</b>	100	4
		<b>Subject for Graduates:</b>		
		PC I-1: Pedagogy of Tamil (Part-I )		
		PC I-2: Pedagogy of English(Part-I )		
		<b>Subjects for Post Graduates:</b>		
		PC I-3: Pedagogy of Mathematics(Part-I )		
		PC I-4: Pedagogy of Physics(Part-I )		
		PC I-5: Pedagogy of Chemistry(Part-I )		
		PC I-6: Pedagogy of Zoology(Part-I )		
		PC I-7: Pedagogy of Botany(Part-I )		
		PC I-8: Pedagogy of Computer Science(Part-I)		
		PC I-9: Pedagogy of History(Part-I )		
		PC I-10: Pedagogy of Economics (Part-I )		
		PC I-11: Pedagogy of Commerce(Part-I )		
			<b>PC-II: Pedagogical Course-II(Part-I )</b>	100
	<b>Subjects for Graduates and Post Graduates:</b>			
	PC II-1: Pedagogy of Tamil(Part-I )			
	PC II-2: Pedagogy of English(Part-I )			
	PC II-3: Pedagogy of Mathematics(Part-I )			
	PC II-4: Pedagogy of Physical Science(Part-I )			

Sl.No		Courses	Marks	Credits
		PC II-5: Pedagogy of Biological Science(Part-I ) PC II-6: Pedagogy of Social Science(Part-I ) PC II-7: Pedagogy of Computer Science(Part-I ) PC II-8: Pedagogy of Economics (Part-I ) PC II-9: Pedagogy of Commerce(Part-I )		
<b>Part-B: Practicum Components</b>				
III.	<b>GROUP-C</b> Developing Teacher Sensibilities	<b>Teacher Enrichment Activities</b>		
		TEA-1 : Strengthening Language Proficiency	50	2
		TEA-2 : Health and Physical Education (Part-I)	25	1
		TEA-3 : Arts & Aesthetics(Part-I)	25	1
		TEA-4 : Exploring Learning Resources	50	2
		TEA-5 : Yoga Education	50	2
		TEA-6 : Enhancing Teaching Skills	50	2
		<b>Social and Environmental Sensitivity Activities</b>		
		SESA-1 : Assessment for Learning(Part-I)	50	2
		SESA-2 : Education for Peace	50	2
		SESA-3 : Issues of Conservation and Environmental Regeneration	50	2
		<b>School Internship</b>	100	4
		<b>TOTAL</b>	<b>1000</b>	<b>40</b>

Note: Each student would be offered two pedagogical courses pedagogical Course-I and pedagogical Course-II in accordance with the major subject at the graduate/post graduate level.

#### DISTRIBUTION OF COURSES FOR THE SECOND YEAR

Sl.No.		Courses	Marks	Credits
<b>Theory Components</b>				
I.	<b>GROUP-A</b> Core Courses	<b>CC-4 : Curriculum and School</b>	100	4
		<b>CC-5 : Vision of Education in India: Concerns and Issues</b>	100	4
II.	<b>GROUP-B</b> Pedagogical Courses	<b>PC-I: Pedagogical Course-I</b> <b>Subject for Graduates:</b> PC I-1: Pedagogy of Tamil (Part-II ) PC I-2: Pedagogy of English(Part-II ) <b>Subjects for Post Graduates:</b> PC I-3: Pedagogy of Mathematics(Part-I I ) PC I-4: Pedagogy of Physics(Part-II ) PC I-5: Pedagogy of Chemistry(Part-II ) PC I-6: Pedagogy of Zoology(Part-II) PC I-7: Pedagogy of Botany(Part-II) PC I-8: Pedagogy of Computer Science(Part-II ) PC I-9: Pedagogy of History(Part-II ) PC I-10: Pedagogy of Economics (Part-II ) PC I-11: Pedagogy of Commerce(Part-II )	100	4
		<b>PC-II: Pedagogical Course-II (Part-I)</b> <b>Subjects for Graduates and Post Graduates:</b> PC II-1: Pedagogy of Tamil(Part-II ) PC II-2: Pedagogy of English(Part-II ) PC II-3: Pedagogy of Mathematics(Part-II) PC II-4: Pedagogy of Physical Science(Part-II) PC II-5: Pedagogy of Biological Science(Part-II)	100	4

		PC II-6: Pedagogy of Social Science(Part-II) PC II-7: Pedagogy of Computer Science(Part-II) PC II-8: Pedagogy of Economics (Part-II) PC II-9: Pedagogy of Commerce(Part-II)		
<b>Practicum Components</b>				
<b>III.</b>	<b>GROUP-C</b> Developing Teacher Sensibilities	<b>Teacher Enrichment Activities</b>		
		TEA-7 : Enriching Learning Through ICT	50	2
		TEA-8 : Health and Physical Education (Part-II)	25	1
		TEA-9 : Arts & Aesthetics(Part-II)	25	1
		TEA-10: Community Camp/Educational Tour	50	2
		TEA-11: Psychological Testing and Case study	50	2
		TEA-12: Preparation of Instructional Software	50	2
		<b>Social and Environmental Sensitivity Activities</b>		
		SESA-4 : Assessment for Learning (Part-II)	50	2
		SESA-5 : Gender Issues in Education	50	2
SESA-6 : Addressing Special Needs in Classroom	50	2		
<b>School Internship</b>		200	8	
<b>TOTAL</b>			<b>1000</b>	<b>40</b>

Note: Each student would be offered two pedagogical courses pedagogical Course-I and pedagogical Course-II in accordance with the major subject at the graduate/post graduate level.

### 6.Scheme of Examination

#### PART-A: WRITTEN EXAMINATION

The marks to be obtained by the candidates in the University Examination in respective Courses for first year and second year are as follows:

#### FIRST YEAR

COURSES	Duration Hours	Internal Marks (Formative)	External Marks (Summative)	Minimum Marks for a pass in External (45% out of 75)	Total Marks	Credits
I.Basics of Education	3	25	75	34	100	4
II.Psychology of Learner and Learning	3	25	75	34	100	4
III. Schooling, Socialisation and Identity	3	25	75	34	100	4
IV. Pedagogical Course-I (Part-1)	3	25	75	34	100	4
V.Pedagogical Course-II(Part-1)	3	25	75	34	100	4
<b>Total</b>		<b>125</b>	<b>375</b>	<b>- - -</b>	<b>500</b>	<b>20</b>

#### SECOND YEAR

COURSES	Duration Hours	Internal Marks (Formative)	External Marks (Summative)	Minimum Marks for a pass in External (45% out of 75)	Total Marks	Credits
VI. Curriculum and School	3	25	75	34	100	4
VII. Vision of Education in India: Concerns and	3	25	75	34	100	4



Issues						
VIII.Pedagogical Course-I (Part-2)	3	25	75	34	100	4
IX.Pedagogical Course-II (Part-2))	3	25	75	34	100	4
<b>Total</b>		<b>100</b>	<b>300</b>	<b>- - -</b>	<b>400</b>	<b>16</b>

Every candidate should appear for all the Courses together in the written examination at the first time. A candidate shall be declared to have passed the examination if he/she obtains not less than 50% marks in each Course (continuous internal assessment and external examinations marks put together) with a minimum of 45% marks in each Course of the external examinations. A candidate who fails to secure the passing minimum in any course/courses and he/she can appear for the failed course/courses alone. Candidates who have succeeded in the first attempt and obtained not less than 60% of the total marks shall be placed in the first class.

### PART-B: PRACTICAL EXAMINATION

Marks for various courses of practical training shall be awarded as follows:

#### FIRST YEAR

S.No.	Items	Max. Marks	Min. Marks
<b>Unit-I</b>	<b>School Internship</b>	<b>100</b>	<b>50</b>
1	Assessment of Teaching Skills – Optional – I	25	
2	Assessment of Teaching Skills – Optional – II	25	
3	Observation of Teaching and Learning	10	
4	Observation of Innovative Centres of Pedagogy and Learning	10	
5	Observation of Educational Resource Centres	10	
6	Observation of Community Resources	10	
7	Viva Voce	10	
<b>Unit-II</b>	<b>Teacher Enrichment Activities</b>	<b>250</b>	<b>125</b>
3	Strengthening Language Proficiency	50	
4	Health and Physical Education (Part-I)	25	
5	Arts & Aesthetics (Part-I)	25	
6	Exploring Learning Resources	50	
7	Yoga Education	50	
8	Enhancing Teaching Skills	50	
<b>Unit-III</b>	<b>Social and Environmental Sensitivity Activities</b>	<b>150</b>	<b>75</b>
9	Assessment for Learning (Part-I)	50	
10	Education for Peace	50	
11	Issues of Conservation and Environmental Regeneration	50	
	<b>Total</b>	<b>500</b>	<b>250</b>

#### SECOND YEAR

S.No.	Items	Max. Marks	Min. Marks
<b>Unit-I</b>	<b>School Internship</b>	<b>200</b>	<b>100</b>
1	Teaching Competency for Pedagogical Course-I	75	
2	Teaching Competency for Pedagogical Course-II	75	
3	Lesson Plan	10	
4	Experiences with the Child	10	
5	Experiences with the Community	10	
6	Experiences with the School	10	
7	Viva – Voce	10	

<b>Unit-II</b>	<b>Teacher Enrichment Activities</b>	<b>250</b>	<b>125</b>
3	Enriching Learning Through ICT	50	
4	Health and Physical Education (Part-II)	25	
5	Arts & Aesthetics(Part-II)	25	
6	Community Camp/ Educational Tour	50	
7	Psychological Testing and Case study	50	
8	Preparation of Instructional Software	50	
<b>Unit-III</b>	<b>Social and Environmental Sensitivity Activities</b>	<b>150</b>	<b>75</b>
9	Assessment for Learning (Part-II)	50	
10	Gender Issues in Education	50	
11	Addressing Special Needs in Classroom	50	
	<b>Total</b>	<b>600</b>	<b>300</b>

Assessment regarding PART-B (practicum) shall be done by the staff concerned of the Department of Education. In order to standardize the assessment done by the Department in PART-B, the University shall appoint a Board of supervising Examiners. It shall be the duty of the Board (a) to observe and evaluate the lessons (b) to examine the candidates recommended by the staff concerned and (c) to conduct viva-voce for all the candidates.

The marks for Unit-I shall be given by the teacher concerned on the basis of their own assessment and on that made by the selected teachers in approved participating school in the teaching practice programme. The trainees are required to maintain records of the practical work done by them.

For the other aspect of the practical work coming under Unit-II and Unit-III, each student shall work under the staff concerned and shall maintain a workbook under his/her supervision. Directions regarding the preparation of the workbook in each of the practicum components shall be given by the staff concerned. All records as well as teaching aids prepared by the candidate shall be scrutinized by the Board of Examiners. If necessary, the Board of Examiners shall report to the university, the marks awarded to each student, in the three units of practical Examination separately and the class awarded to each student in the whole examination.

“Submission of all the prescribed records related to both Theory and Practicum. (Continuous internal assessment Unit-I Unit-II and Unit-III) is a pre-requisite to appear for the practical and theory examinations conducted by the university”.

A candidate shall be declared to have passed the PART-B (Practical) examination, if he/she obtains not less than 50% in each item in units I,II, and III.

In the practical examination, those who have succeeded in the first attempt and obtained not less than 60% in respect of each of the units shall be placed in the first class.

Candidate shall be declared to have passed the practical examination if she/he obtains not less than 50% in respect of each item. All other candidates shall be deemed to have failed in the practical examinations.

A candidate who fails only in Unit-I of the practical examination may present himself or herself for that unit alone at a subsequent practical examination at which the Board of Examiners shall examine him or her in that unit alone for declaration of results. A candidate who fails only in Unit-II and Unit-III shall revise the concerned

records alone and submit them to the Board of Examiners at the subsequent practical examination for evaluation. A candidate shall not be permitted to appear for the practical examination on more than two occasions, though the syndicate may in special cases permit candidate to appear on third occasion.

Successful candidates shall be classified separately for (a) written examination and (b) the practical examination. In the case of (a) written examination, candidates who have succeeded in the first attempt and obtained not less than 60% of the total marks shall be placed in First class. In the case of (b) practical examination candidates who have succeeded in the first attempt and obtained not less than 60% of the total marks in each of Unit-I, Unit-II and Unit-III shall placed in the First class. All other Successful candidates shall be placed in the second Class.

### 7. Question Paper Pattern

The Syllabus for each course is divided into ten units, and at least one question shall be set in each unit and the question paper should cover the entire syllabus.

Further, the questions set on the content in the case of pedagogical courses should have a bearing on its teaching aspect.

The question paper, in each course should have three sections Section-A, Section-B and Section-C.

Section-A shall contain very short answer type questions. Without choice.

Section-B shall contain short answer type questions 5 out of 7.

Section-C shall contain Essay type questions. With internal choice (Either or Type). The format is given below:

#### FORMAT OF QUESTION PAPER

Sl. No.	Type	Length of Answer	No. of Question to be Attempted	Type of Choice	Marks per Question	Total
A	Very Short Answer	Each in about 70 Words	10	No Choice	02	20
B	Short Answer	Each in about 250 Words	5	Out of 7	05	25
C	Essay Type	Each in about 750 Words	2	Internal Choice 2	15	30
			<b>17</b>	<b>Grand Total</b>		<b>75</b>

The question for each course in general shall cover all the units in the syllabus.

Questions testing knowledge, understanding and application shall be given due weightage.

### 8. Classification of Grade and Percentage of Marks

Percentage	Grade Point	Letter Grade
90 +	10.0	S
85 – 89	9.0	D+++
80 – 84	8.5	D++
75 – 79	8.0	D+
70 – 74	7.5	A+++
65 – 69	7.0	A++
60 – 64	6.5	A+
55 – 59	6.0	B
50 – 54	5.5	C

49 or less	-	RA
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**GPA** –Grade Point Average; **OGPA** – Overall Grade Point Average; **RA** – Reappear.

### 9. Internal Assessment

The marks obtained by the candidate in the internal assessment and external valuations shall be shown separately in the mark list.

There will be no supplementary test for internal Assessment.

Internal assessment marks shall be divided as follows.

Sl. No.	Criteria for Internal Assessment	Duration	No. of Tests/Task/Assignment	Distribution of Marks per Paper
I	Test	60 minutes	2	10
II	Practicum work (Task and Assignments) Listed Under Course Outline	Two weeks	4	10
III	Marks for Attendance percentage. (Attendance from the date of commencement of class is compulsory)	60 – 69(2) marks 70 – 79(3) marks 80 – 89(4) marks 90 and above(5) marks		5
<b>Total</b>			<b>-</b>	<b>25</b>

The internal marks should be sent to the university before the written examination.

The valued answer papers shall be returned to the students for perusal and then collected back from them in the classroom itself. The internal assessment marks shall be displayed in the department Notice Board. The teachers shall also discuss the answer to questions in the class and supply the correct answers. The papers shall be available for review by the University, if necessary.

If a student is not satisfied with the valuation of the paper, he/she may appeal to the Head of the Department within 3 days of the announcement of the marks for consideration. Such appeals shall be referred to the review cell consisting of the Dean of Faculty, the Head of the Department and another teacher (Nominated by the Head of the Department other than the teachers involved). If the Head of the Department himself/herself is the course teacher, another senior staff member of the Department in lieu of the Head of the Department will be nominated as a member of the review cell. The marks awarded by the cell will be the final marks.

The candidates desirous of improving the internal assessment marks should undergo the course of study once again after obtaining the prior permission of the university, also at the end of the year, after cancelling the previous appearance of Paper/Papers in the University Examination.

### 10. School Internship

During the first year, the student teacher shall spend 4 weeks of internship programme in schools. This will include one week of school engagement by the student teacher making observation in the school and 3 weeks for visit to innovative centers of pedagogy and learning, educational resource centers and community resources. Within the institution the observation will focus on understanding the institution in totality, with reference to features such as its philosophy and aims, organization, teachers' role, student needs with respect to

their development, curriculum, its transaction and assessment. This period can also be spent for working on projects and tasks based on the course papers in school or out of the school.

During the second year, the student teacher shall spend 16 weeks of internship programme in schools, out of 16 weeks one week for observation of regular classes by regular teachers and peer student teachers (at least 5 lesson in each pedagogical subject) and 15 weeks of classroom teaching may be in two spells. The internship for graduates must be both at upper primary (classes VI – VIII) and secondary (classes IX and X) and for post graduates should be at secondary (classes IX and X) and higher secondary (XI and XII). These two spells of training in the level one and level two may be in one school or in two schools.

- i. All the working days are compulsory during the teaching practice period for the students of B.Ed., Relaxation of attendance during the teaching practice period, not exceeding 10 percent is applicable to only exceptional cases and not a general rule with prior permission from Head of the Department.
- ii. The teaching practice shall be preceded by demonstration classes. All Demonstration and all criticism classes are compulsory for the students to attend the internship programme.
- iii. For the purpose of teaching practice, each student teacher shall work as an apprentice under a selected teacher of an approved school and under the general supervision of the staff of the Department of Education. He/she shall also maintain the prescribed workbook for internship in each pedagogical course. The total 60 lessons of classroom teaching in 15 weeks may be divided as 30 at level one (15 lessons for Pedagogical Course-I and 15 lessons for Pedagogical Course-II) and 30 at level two (15 lessons for Pedagogical Subject I and 15 lessons for Pedagogical Course-II).
- iv. During this period, (i) classroom teaching (ii) evaluation at the end of 15 lessons and (iii) diagnosis based feedback to the students should be completed by every student teacher.
- v. The internship should be in government recognized schools under Government or private managements, situated within the radius of 50 km of the University campus.

**SYLLABUS**  
**FIRST YEAR COURSES**  
**CC1: BASICS IN EDUCATION**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teachers

- acquire knowledge of the educational concepts, their premises and contexts that are unique to education.
- understand the nature of education and their practical ramifications in the school context.
- acquire knowledge of the aims of education and their classification.
- understand the meaning, types and classification of values.
- comprehend the Educational provisions in the Indian constitution.
- acquire knowledge of the meaning, characteristics of culture, cultural lag and relationship with education.

**II. COURSE OUTLINE**

**Unit-I : Meaning, Nature and scope of Education**

Meaning of Education – Derivation of the term education – Indian concept of Education – Western concept of Education – Significance of Education – Nature of Education – Scope of Education – Functions of Education – Process of Education.

**Unit-II : Aims of Education – Need and classification**

Significance of Aims of Education – Factors affecting aims of Education – General aims of Education – Individual and Social aims of Education – Character development aims and vocational aims of Education – Immediate and ultimate aims of Education.

**Unit-III : Aims of Education in the Emerging Indian Society**

Increasing productivity – Achieving Social and National Integration – Accelerating the process of Modernization – Cultivating Social, Moral and Spiritual values.

**Unit-IV : Guiding Principles of Indian Policy**

Constitution as the Guiding and Inspirational Source of Indian Policy – Salient Ideals and Values contained in the constitution – Major Policy Provisions – Specific Articles in the Constitution relating to Education Policy.

**Unit-V : Knowledge and Knowing**

Meaning of knowledge and knowing – Difference between information, knowledge, belief and truth – knowing process – Different ways of knowing; knowledge construction – Relative roles of knower and the known in knowledge transmission and construction. Facets of knowledge; role of culture in knowing.

**Unit-VI : Forms of knowledge in School Education**

Basis to categorise knowledge; Forms of knowledge included in school education; Basis of selection of knowledge categories; organization of knowledge in schools; knowledge in the form of curriculum, syllabus and textbooks.

#### **Unit-VII : Autonomy of Teacher and Learner**

Meaning of autonomy – Autonomy and freedom. Teacher's autonomy and enriching learning situations; Autonomy and accountability; Factors affecting teacher's autonomy.

Autonomy of Learner – Meaning; Restraints on learners in schools; Learner and freedom; Individual autonomy and collective responsibility for teacher and learner.

#### **Unit-VIII : Formal, Non-formal and Informal types of Education**

Meaning, definition and need for different types of agencies of Education; comparison between formal, Non – formal and Informal types. Home, community and mass media as agencies of Education; continuing education and concept of open university system.

#### **Unit-IX : Education for changing Indian Society**

Concept of Culture – Nature of Culture – Types of Culture – Characteristics of Culture – Salient features of Indian culture – Transmission and Transformation of culture – Cultural lag.

#### **Unit-X: Modernization**

Role of Education in the process of modernization – Explosion of knowledge – rapid social change – Need for rapid advance. Modernization and Educational Progress; Modernization of Indian Society, its significance for education – Instrumental factors like universalization and democratization of education.

### **III. PRACTICAL WORK**

- 1) Prepare a report on the organization of knowledge in text books at school level.
- 2) How does teacher autonomy help in enriching learning situations.
- 3) How will you inculcate social, moral and spiritual values.
- 4) Bring out the special provisions in the constitutions relating to Education.
- 5) How worthwhile is education.

### **IV. REFERENCES**

- 1) Ayodhya, P., Dash, B.N., Foundations of Education, Neelkamal Publications Pvt. Ltd., Hyderabad, 2009.
- 2) Bhatia, K.K., Philosophical and Sociological Bases of Education, Tandon Publications, Ludhiana, 1991.
- 3) Chauba, S.P., Philosophical and Sociological Foundations of Education, Agra.
- 4) Dash, B.N., Trends and Issues in Indian Education, Delhi, Dominant Publishers, 2004.
- 5) Mohanty, J., Indian Education in the Emerging Society, Sterling Publishers, New Delhi, 1994.
- 6) Seetharamu, A.S., Philosophies of Education, Ashish Publishers, New Delhi, 1998.
- 7) Swaroop Saxena, Principles of Education, R. Lall Book Depot, Meerut, 2002.
- 8) Taneja, V.R., Educational thought and Practice, New Delhi; Sterling Publishers, 1987.

**CC2: PSYCHOLOGY OF LEARNER AND LEARNING**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the basic concepts of educational psychology and individual development.
- acquires knowledge of different aspects of human behavior.
- understands the innate, environmental cognitive and affective processes influencing the development of the learner.
- understands the theoretical and social constructivist perspectives on learning in different learning situations.
- develops an understanding of processes in human cognition for designing learning environments and experiences at school.
- applies the knowledge and principles of psychology to teaching learning situation.
- develops skill in performing experiments and collection of data.

**II. COURSE OUTLINE****Unit-I: Educational Psychology and Methods**

Psychology – Educational psychology – Definitions – Meaning – Nature and Scope – Relevance of educational psychology to the learner and teacher – Methods of educational Psychology – Aims and objectives – Introspection – Observation – Case study – Cumulative and Anecdotal.

**Unit-II: Learner as a Developing Individual**

Developmental influences – Laws of heredity – Experiments in favour of heredity and environment – Educational implications of heredity and environment continuity and discontinuity issues – Growth and maturation – Cognitive and affective processes – Sensation – Perception – Attention – Memory – Thinking – Problem solving and Emotions.

**Unit-III: Human Development and Learning**

Growth and development – Meaning characteristics and principles of development – Relationship between development and learning – Dimensions of individual development – physical, cognitive, languages, emotional, social and moral development – Interrelationships and educational implications – Cognition meaning – Role in learning – Intellectual development by Jean Piaget – Erickson's view of psycho social development – Kohlberg's theory of moral development.

**Unit-IV : Developmental Stages**

Stages of development – Infancy – Childhood – Later childhood – Adolescence – Needs and problems of adolescence – Educational planning for adolescence – Characteristics of each stage and educational implications – Developmental tasks at various stages – Significance of the knowledge of the growth and development process to the teacher.



**Unit-V : Theoretical Perspectives on Learning**

Learning – Meaning and definitions – Characteristics – Internal and external conditions of learning perspectives on human learning – Behaviourist theories, Thorndike, Pavlov, Skinner – Cognitive theories – Insight learning theory, Lewin’s field theory – Information processing theories(Gagne’s hierarchy of learning) Humanistic theory – C.R.Rogers – Concepts and principles of each perspective – Applicability of various theories of learning in different learning situations – Role of learner in various learning situations – Role of teacher in teaching learning situations.

**Unit-VI : Learning in Constructivist Perspective**

Distinctions between learning as construction of knowledge and transmission and reception of knowledge – Constructivist theories of learning – The constructivist theory of Piaget – Vygotsky’s theory of social constructivism – Bruner’s theory of cognitive learning – Ausubel’s theory of learning – Processes facilitate construction of knowledge – Experiential learning and reflection – Social meditation – Cognitive negotiability – Situated learning – Metacognition.

**Unit-VII : Facilitative Learning Environment**

Teachers attitudes, expectations – Motivation in learning – Intrinsic and extrinsic – Achievement motivation and learning – Enhancing motivation – Characteristics of motivated learner – Maslow’s views on motivation – Emotions – Educating positive emotions – Self efficacy – Collaborative – Self regulated learning.

**Unit-VIII : Individual Differences among Learners**

Differences among individual – Among groups – Trait differences – Factors making differences – Dimensions of differences – Cognitive abilities – Interest aptitude – Creativity – Values – Differences in learning styles – Differences based on socio cultural contents – Impact of home languages, language instructions.

Intelligence – meaning – Theories – Spearman’s two factor theory – Multifactor theory – Group factor theory – Guilford’s structure of intellect – Gardner’s multiple intelligence – Emotional intelligence. Measurement of intelligence – Uses of intelligence tests.

**Unit-IX : Psychological Attribute – Personality**

Personality – Meaning and definition – classification – Theories of personality – Freud’s psycho – analytical theory – Jung analytical theory – G.W.Allport’s classification – Carl Roger’s self theory – Assessment of personality – subjective and objective methods – projective techniques.

**Unit-X : Differences Based on Cognitive Abilities**

Learning difficulties – Slow learners – Intellectual deficiency – Intellectual giftedness – Implications for catering to individual variation – Delinquency – Characteristics – causes and preventive measures.

**III. PRACTICAL WORK**

To be conducted to children / adolescents

- 1) Span of Attention
- 2) Concept Formation

- 3) Memory for meaningful and Meaningless stimuli
- 4) Transfer of Learning
- 5) Attitude (any one scale)
- 6) Personality test (any one)
- 7) Interest Inventory
- 8) Motivation
- 9) Aptitude tests
- 10) Intelligence Tests.

#### **IV. REFERENCE BOOKS**

- 1) Chauhan, S.S., A Text of Programmed Instruction, Sterling Publishers Ltd., New Delhi, 1982.
- 2) Crow, L.D. and Crow, A., Educational Psychology, Eurasia Pub. House, New Delhi, 1973.
- 3) Eillis, Educational Psychology, Affiliated East, West Press, New Delhi, 1965.
- 4) Guilford, J.P., Personality, McGraw Hill, New York, 1978.
- 5) Hilgard, F.R., Theory of Learning, Appleton Century, New York, 1958.
- 6) Hurlock, E., Development Psychology, Tata McGraw Hill, New Delhi, 1974.
- 7) Skinner, C.F., Educational Psychology, Prentice Hall of India, New Delhi, 1958.
- 8) Woodworth, Contemporary Schools of Psychology, Sterling Publishers, New Delhi, 1984.
- 9) Yogendra K.Sharma, Educational Psychology, Kanishka Publishers, 2004.
- 10) Kuppasamy, B., Advanced Educational Psychology, Sterling Publishers, New Delhi, 1984.
- 11) UdayShankar, Advanced Educational Psychology, Oxomian Press, New Delhi, 1984.
- 12) Aggarwal, J.C., Psychology and Learning and Development, Shipra Publications, New Delhi, 2005.
- 13) Tara Chand, Modern Child Psychology, Anmol Publications, New Delhi, 1997.
- 14) Aggarwal, J.C., Essential of Educational Technology, Vikas Publishing House Pvt. Ltd., 2007.
- 15) Chauhan, S.S., Advanced Educational Psychology, Vikas Publishing House, Pvt. Ltd. New Delhi, 1978.
- 16) Dandapani, S., A Text Book of Advanced Educational Psychology, Anmol Publications Pvt. Ltd., New Delhi, 2000.

#### **CC3: SCHOOLING, SOCIALISATION AND IDENTITY**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teachers

- become aware of the process of socialization at home and school that act as shaping factors in identity formation.

- reflect on factors that shape identity formation and influence a sense of self.
- understand the processes that have shaped one's own sense of identity as 'student'.
- become aware of 'self' and 'identity' and free oneself through self understanding.
- reflect on one's aspirations and possibilities in order to develop a growing sense of agency as a teacher, a professional and a human being.

## **II. COURSE OUTLINE**

### **Unit-I : Socialisation**

Family as a social institution – Parenting Styles and their impact; parental expectations and values.

Community and socialization – Neighbourhood, extended family, Religious group and their socialization functions.

School as a social institution; value formation.

### **Unit-II : Development of Self**

Various dimensions of self – Self concept, Self-esteem, Self-efficacy, Self Control and Self-Confidence.

### **Unit-III : Development of Identity**

Impact of socialization on developing self – Interface between home, community and school. Interlinkages within wider socio – Cultural contexts.

### **Unit-IV : Identity Formation**

Emergence of multiple identities in the formation of a person – Social and institutional contexts; Need for inner coherence; Managing conflicting identities.

### **Unit-V : Identity Formation in Individuals and Groups**

Determinants – Social categories – Caste, class, Gender, Religion, Language and Age.

Technology and Globalisation on identity formation.

### **Unit-VI : Establishing Identity in a Real World**

Peer group influence to media messages; Peer relations – Competitions, Co-operation and Peer pressure; Role of teacher in establishing identity with respect to media and peer relations.

### **Unit-VII : Schooling and Identity Formation**

Process of identity formation – Ascribed, acquired and evolving; school as a site – Teacher and students, school culture and ethos; Teaching – Learning practices; Teacher discourse in the classroom ; Evaluation practices, value system and hidden curriculum; Role of school in developing national, secular and humanistic identities.

### **Unit-VIII : Role of Education and Social Complexities**

Expanding human activities and relations; Increasing complexity; Homogenisation of culture; preservation of distinctive identities; competition, uncertainty, Insecurities.

### **Unit-IX : Assertion of Identities**

Oppression, Conflict and Violence; Peace through education; Role of education for peaceful living.

### Unit–X : Evolving an Identity as a Teacher

Impact of socialization process; shifting identities as ‘Student’ ‘adult’ and ‘student teacher’. Influences acting on oneself; one’s own aspiration and efforts to become a teacher. Evolving an identity for reconstruction. Professional identity.

#### III. PRACTICAL WORK

- 1) Write a report on your parental expectation and parental styles.
- 2) Give a report on the determinants of identity formation of an individual.
- 3) Role of School in developing secular and humanistic identities.
- 4) Peer group influence to media messages.
- 5) Role of education for peaceful living.

#### IV. REFERENCES

- 1) Bhatia, H.R., Elements of Educational Psychology, Orient Longman, New Delhi, 1973.
- 2) Biggie, M.L., Learning Theories for Teachers, Harper and Row Publishers. New York, 1982.
- 3) Chauhan, S.S., Advanced Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi, 1978.
- 4) Dash, B.N., 2004. Trends and Issues in Indian Education, Dominant Publishers, New Delhi.
- 5) Kundu, C.L. and Tutoo, D.N., Educational Psychology, Delhi, Sterling Publishers, 1993.
- 6) Mangal, S.K., Psychological Foundations of Education, Ludhiana, Prakash Publishers, 1984.

### PC I-1: PEDAGOGY OF TAMIL [PART-1]

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### I. OBJECTIVES

The Student teacher

- Acquires knowledge of the importance of mother tongue and aims of teaching mother tongue.
- understands the methods of teaching prose and poem in Tamil.
- develops interest in knowing the methods of teaching grammar and teach the grammar.
- develops interest in writing lesson plan for micro teaching and macro teaching and practice it.

#### II. COURSE OUTLINE:

##### Unit-I : Aims of Teaching Mother Tongue

Aims of teaching mother tongue – uses – Expressing ideas and thoughts – speaking, writing and reading skills improving Aesthetic sense – social and traditional aspects – inculcating skills for living.

**Unit-II : History of Tamil language**

Language – origin – characterizes – importance – History of Tamil language – Grammar – Literature. Cultivated – independent – classical language of Tamil, characters, literature of cultivated independent classical languages – Importance of education as viewed by Tamil classical literature

**Unit-III : Teaching of Poem**

Teaching of poem – Aims – methods of Introducing Tamil Poem – Uses – different method for different age groups – reflect the feelings – developing interest to study Tamil literature – developing aesthetic sense towards Tamil literature.

**Unit-IV : Teaching of Prose**

Teaching of prose – aims – teaching methods – Teaching of vocabulary – Introducing different authors – Classical Tamil literature.

**Unit-V : Teaching of Grammar**

Teaching of grammar – need and importance – uses – Incidental and systematic grammar – uses of grammatical rules and definition – use of inductive and deductive methods for grammar teaching – Innovation in grammar teaching – use of language grammar.

**Unit-VI :Tamil Curriculum**

Tamil curriculum – criteria for preparing Text books, characteristics of a Tamil text books. Merits and demerits of Tamil text books – text book analysis.

**Unit-VII : Language Teacher**

Language Teacher – Educational Qualification – training – Professional development for Tamil language and literature – psychological aspects – Aesthetic sense – good role model to students, pre service training and in service training.

**Unit-VIII : Preparation of Micro and Macro LessonPlan**

Preparation of lessonPlan – merits and demerits – Bloom's taxonomy – micro teaching skill of stimulus variation, skill of question – skill of reinforcement – skill of using black board – get training in those skills.

**Unit-IX : Audio Visual Aids**

Audio visual aids – simple class room aids – objects, pictures, black boards, charts, flash cards, – use of computers in Tamil language teaching.

**Unit-X :Web Resources**

Web resources – search engines – seek information through internet, visualization through computer – teaching by using electronic medias.

**III. PRACTICAL WORK**

- 1) Prepare and teach a micro lesson by using electronic media.
- 2) Write a critical analysis of a language textbook.
- 3) Prepare a scrap book focusing on ELT.
- 4) Prepare a match stick album for teaching various grammar items.
- 5) Prepare a picture album to teach vocabulary.

**IV. REFERENCE BOOKS**

- 1) Eleckuan, 2008. Tamil PadanulumAasiriyarum, SarathaPathipaham,Chennai.
- 2) Vijayalakshmi, V.,2007.NunnilaiKarpithal,Saratha Pathipaham,Chennai.

- 3) Ganapathi, V., 1977. Nattamil Karpikum Muraikal, Pahuthal, Santha Publishers, Chennai.
- 4) Ganapathi, V., 1977. Ivahai Padankalum Karpithalum, Santha Publishers, Chennai.
- 5) Subbureddiyar, R., 2001. Tamil Payitum Muraikal, Manivasahar Pathipagam, Chidambaram.

### **PC I-2: PEDAGOGY OF ENGLISH – [PART-1]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the pedagogy of English.
- understands the concepts, terms and procedure in the content and methodology of teaching English.
- applies the knowledge in actual classroom situations.
- develops interest in various activities pertaining to teaching and learning of English.
- develops interest in knowing recent developments in content and methodology of teaching English.
- develops positive attitude towards teaching and learning of English.
- appreciates the contribution of English language to the process of teaching and learning.

#### **II. COURSE OUTLINE**

##### **Unit-I : Teaching of Content**

Subject matter of VI to X Standard English textbooks prescribed by Tamilnadu government from time to time.

##### **Unit-II : Nature and Scope of Language**

Language – Concept – Meaning – Nature – Scope – Functions – Principles.

##### **Unit-III : Language Skills**

Four basic skills – Listening – Speaking – Reading – Writing – classification of skills – interdependence of skills.

##### **Unit-IV : Aims of Teaching English**

Aims of teaching English in India at Secondary Level – General Abilities to be developed.

##### **Unit-V : Objectives of Teaching English**

Specific Instructional objectives – Four Fold Objectives – application of Bloom's Taxonomy – and specific learning outcomes at Secondary Level.

##### **Unit-VI : Place of English in India**

Role and Importance of English language – English in Indian education – Pre-Independence period – Post Independence Period – Problems of teaching English in India.

**Unit-VII : Language Curriculum**

Concept – Principles – steps – advantages – limitations – place of English in Indian school curriculum – language textbook – qualities.

**Unit-VIII : Methods of Teaching English**

Translation Method – Direct Method – Substitution Method – Bilingual Method – Meaning – Principles – Merits and Demerits.

**Unit-IX : Approaches of Teaching English**

Structural Approach – Situational Approach – Meaning – Principles – Merits and Demerits.

**Unit-X : Microteaching Technique and Teaching Skills**

Meaning – Definition – Principles – Procedure – Microteaching Cycle – Microteaching Skills – Skill of Questioning – Reinforcement – stimulus Variation.

**III. PRACTICAL WORK**

- 1) Write a critical analysis of a language textbook.
- 2) Prepare a scrap book focusing on ELT.
- 3) Prepare a match stick album for teaching various grammar items.
- 4) Prepare a picture album to teach vocabulary.
- 5) Write a summary of one your favorite works of A.P.J.Kalam

**IV. REFERENCES**

- 1) Anne, V.K., 2001. Methods of Teaching English, New Era Publications, Hyderabad.
- 2) Baruah, T.C., 2006. The English Teachers HandBook. Sterling Publishers, New Delhi.
- 3) Close, R.A., 1999. English as a Foreign Language, Longman, London.
- 4) Dash, B.N., 2007. Teaching of English, Dominant Publishers, New Delhi.
- 5) Halliday, M.A.K., 1998. Language as a Social Semiotic, Arnold Publications, London.
- 6) Jack, Richards, 2012. Approaches and Methods in Language Teaching, Cambridge, London.
- 7) Jindal, D.V., 2008. An Introduction to Linguistics, Prentice Hall, New Delhi.
- 8) Krishna Babu, S., et al. 2009. Reading Disabilities, Sonali, New Delhi.
- 9) Kohli, A.L., 2006. Techniques of Teaching English, Dhanapat Rai Publications, New Delhi.
- 10) Kishnaswamy, N., 2005. Teaching of English Grammar, T.R.Publications, Chennai.
- 11) Mowla, Shaikh, 2006. Techniques of Teaching English, Neelkamal, Hyderabad.
- 12) Pahuja, N.P., 2009. Teaching of English, Anmol Publications, New Delhi.
- 13) Swan, Michael. 2002. Practical English Usage, Oxford, OUP.
- 14) Venkateswaran, S., 2011. Principle of Teaching English, Vikas Publishing House, New Delhi.
- 15) Vallabhi, J.E., 2012. Teaching of English II:Principles and Practices, Neekamal, Hyderabad.

**PC I-3: PEDAGOGY OF MATHEMATICS – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the aims and objectives of mathematics
- understands the nature and scope of mathematics, the principles of curriculum construction and organization of subject matter, psychology of learning mathematics
- the special qualities of a good mathematics teacher, acquire those qualities and to evaluate himself or herself
- applies the knowledge in interaction of analysis in actual class room situation and teaching strategies
- develops skill in effective communication
- develops interest in knowing dynamic methods of teaching mathematics.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

**II. COURSE OUTLINE****Unit-I**

Mathematics Subject Matter Specified In Standard XI To XII In Mathematics Syllabus By Tamilnadu Government from time to time respectively.

**Unit-I: Nature and Scope**

Nature of Mathematics – History of Mathematics – Contribution of Indian Scientists Mathematics, Scope of Mathematics. Correlation of Mathematics with Different Subjects.

**Unit-III :: Aims and Values of Teaching Mathematics**

Important aims of Teaching Mathematics at Higher Secondary Level – Values of Mathematics – Intellectual, Practical, Disciplinary, Moral, Cultural, social and Aesthetic.

**Unit-IV : Objectives of Teaching Mathematics**

General and Specific Objectives of Teaching Mathematics – Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains). – Objectives of Teaching Mathematics at Different Levels – Primary, Secondary, Higher Secondary.

**Unit-V : Curriculum**

Learning theory foundation for instructional design – Task analysis – Content analysis – Recent Trends in Curriculum Development – Student – Subject and Environment Oriented Approaches – Curriculum Development and Improvement Practices in India.

**Unit-VI : Psychological Basis of Teaching Mathematics**

Psychology Of Learning Mathematics – Gagne's Types of Learning, The Ideas of Piaget and Psychological aspects – Models of Teaching – Significance of Models –



Components. Models Developed by Bruner, Ausubel and Suchman – Advantages and Disadvantages – Dewey’s Contribution – Dalton Plan.

#### **Unit–VII : Mathematics Text Book**

Text Book – Characteristics – Appropriate Use of It – Uses of Text Book – Importance of Text Book – Difference between work books and text books.

#### **Unit–VIII: Classroom Climate**

Class Room Climate – Authoritarian – Laize Faire and Democratic Climates – Borich three types of classroom climate competitive, cooperative and individualistic types – Components of classroom management, 1.Management of the Physical Environment 2. Management of learning 3. Management of classroom rules 4. Management of the Discipline – Strategies of classroom management.

#### **Unit–IX: Effective Communication**

Principles of communication – Modes of communication – classroom communication – Communication and Interaction – FIAS – Coding and Analysis – Effects of Analysis – Teaching Strategies – Guided Discovery, Exposition, Discovery Learning, Investigation – Think Aloud.

#### **Unit–X: Dynamic Methods of Teaching**

Dynamic Methods of Teaching – Seminar, Symposium, Discussion, Panel Discussions, Workshops – Debates (Formal) – Debate (Informal) by Students – Merits and Demerits. Group Dynamics Techniques – Buzz Sessions, Group Discussions.

### **III. PRACTICAL WORKS**

- 1) Organisation and Participation of Class Room Seminars by the student teachers.
- 2) Practicing FIAS, Coding, Analysing and preparing report on the Effects of Analysis in the classroom.
- 3) Observing Class Room Climate during teaching practice programme and preparing a report.
- 4) Arranging Group Discussions for identifying and removing the problems in teaching and learning process.
- 5) Analysing Text Books of the class allotted during teaching practice.

### **IV. REFERENCES**

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- 4) Sudhir Kumar, 1993. The Teaching of Mathematics, Anmol Publications, New Delhi.
- 5) Sidhu, Kulbra, 1987. The Teaching of Mathematics, Sterling Publishers, New Delhi.
- 6) Anice James, 2011. Skills & Strategies of Teaching of Mathematics, Neelkamal Publications, Hyderabad.

**PC I-4: PEDAGOGY OF PHYSICS – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the aims and objectives of physics
- understands the nature and scope of physics, the principles of curriculum construction and organization of subject matter, psychology of learning physics
- the special qualities of a good physics teacher, acquire those qualities and to evaluate himself or herself
- applies the knowledge in interaction of analysis in teaching and teaching strategies in actual class room situation
- develops skill in effective communication
- develops interest in knowing dynamic methods of teaching physics.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

**II. COURSE OUTLINE****Unit-I**

Physics Subject Matter prescribed for In Standard XI and XII by the Tamilnadu Government from time to time.

**Unit-II: Nature and Scope**

Nature of Physics – History of Physics – Contribution of Indian Scientists Science, Scope of Physics. Correlation of Physics with Different Subjects.

**Unit-III : Aims and Values of Teaching Physics**

Important Aims of Teaching Physics, Higher Secondary Level – Values of Physics – Intellectual, Practical, Preparatory, Moral, Cultural, Rational and Aesthetic.

**Unit-IV: Objectives of Teaching Physics**

A. General and Specific Objectives of Teaching Physics.

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains).

C. Objectives of Teaching Physics at Different Levels – Primary, Secondary, Higher Secondary.

**Unit-V : Curriculum**

Recent Trends in Curriculum Development – Student – Subject and Environment Oriented Approaches – Curriculum Development and Improvement Practices in India.

**Unit-VI : Psychological Basis Of Teaching Physics**

Psychology of Learning Physics – Gagne's Types of Learning, the Ideas of Piaget and Psychological aspects – Models of Teaching – Significance of Models – Components. Models Developed by Bruner, Ausubal and Suchman – Advantages and Disadvantages – DEWEY'S Contribution – Dalton Plan.

**Unit-VII : Physics Text Book**

Text Book – Characteristics – Appropriate Use of It – Uses of Text Book – Importance of Text Book – Difference between work books and text books.

**Unit-VIII : Classroom Climate**

Class Room Climate – Authoritarian – Laize Faire and Democratic Climates – Borich three types of classroom climate competitive, cooperative and individualistic types – Components of classroom management, 1. Management of the Physical Environment 2. Management of learning 3. Management of classroom rules 4. Management of the Discipline – Strategies of classroom management.

**Unit-IX : Effective Communication**

Principles of communication – Modes of communication – classroom communication – Communication and Interaction – FIAS – Coding and Analysis – Effects of Analysis – Professional Self – Development – Teaching Strategies – Guided Discovery, Exposition, Discovery Learning, Investigation – Think Aloud.

**Unit-X : Dynamic Methods of Teaching**

Dynamic Methods of Teaching – Seminar, Symposium, Discussion, Panel Discussions, Workshops – Debates (Formal) – Debate (Informal) on Current Issues by Students From Class Merits and Demerits. Group Dynamics Techniques – Cooperative Learning, Buzz Sessions, Group Discussions – Peer Learning – Co-Operative Learning – Team – Based Learning.

**III. PRACTICAL WORKS**

- 1) Organisation and Participation of Class Room Seminars by the student teachers.
- 2) Practicing FIAS, Coding and Analysis, Effects of Analysis in the classroom.
- 3) Observing Class Room Climate during teaching practice programme and preparing a report.
- 4) Arranging Group Discussions for identifying and removing the problems in teaching and learning process.
- 5) Analysing Text Books of the class allotted during teaching practice.

**IV. REFERENCES**

- 1) Boulind, H.E., 1972. The Teaching of Physics in Tropical Secondary School, Oxford University, London.
- 2) Dale, E.D., 1970. Audio Visual Methods Teaching, Dryden Press, New York of Science in Our School, Chand & Co. P. Ltd., New Delhi.
- 3) Newbur, N.F., 1983. Teaching of Physical Science in Tropical Secondary Schools, Oxford Universtiy Press, London.
- 4) Sharma, R.C., 1976. Modern Science Teaching, Dhanpet Rai & Sons, Delhi.

**PC I-5: PEDAGOGY OF CHEMISTRY [PART-1]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the aims and objectives of chemistry.

- understands the nature and scope of chemistry, the principles of curriculum construction and organization of subject matter, psychology of learning chemistry.
- develops the special qualities of a good chemistry teacher.
- applies the knowledge in interaction of analysis in actual class room situation and teaching strategies.
- develops skill in effective communication.
- develops interest in knowing dynamic methods of teaching chemistry.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

## **II. COURSE OUTLINE**

### **Unit-I**

Chemistry Subject Matter Specified from Standard VI to IX in Science Syllabus by Tamilnadu Government from time to time.

### **Unit-II : Nature and Scope**

Nature of Chemistry – History of Chemistry – Contribution of Indian Scientists  
Science, Scope of Chemistry. Correlation of Chemistry with Different Subjects.

### **Unit-III : Aims and Values of Teaching Chemistry**

Important aims of Teaching Chemistry, Higher Secondary Level – Values of Chemistry – Intellectual, Practical, Preparatory, Moral, Cultural, Rational and Aesthetic.

### **Unit-IV : Objectives of Teaching Chemistry**

A. General and Specific Objectives of Teaching Chemistry.

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective And Psychomotor Domains).

C. Objectives of Teaching Chemistry at Different Levels – Primary, Secondary, Higher Secondary.

### **Unit-V : Curriculum**

Recent Trends in Curriculum Development – Student – Subject and Environment Oriented Approaches – Curriculum Development And Improvement Practices In India.

### **Unit-VI : Psychological Basis of Teaching Chemistry**

Psychology of Learning Chemistry – Gagne's Types of Learning, The Ideas of Piaget and Psychological Aspects – Models of Teaching – Significance of Models – Components. Models Developed by Bruner, Ausubal and Suchman – Advantages and Disadvantages – DEWEY'S Contribution – Dalton Plan.

### **Unit-VII : Chemistry Text Book**

Text Book – Characteristics – Appropriate Use of It – Uses of Text Book – Importance of Text Book – Difference between work books and text books.

### **Unit-VIII : Classroom Climate**

Class Room Climate – Authoritarian – Laize Faire and Democratic Climates – Borich three types of classroom climate competitive, cooperative and individualistic types – Components of classroom management, 1. Management of the Physical

Environment 2. Management of learning 3. Management of classroom rules  
4. Management of the Discipline – Strategies of classroom management.

#### **Unit-IX : Effective Communication**

Principles of communication – Modes of communication – classroom communication – Communication and Interaction – FIAS – Coding and Analysis – Effects of Analysis – Professional Self – Development – Teaching Strategies – Guided Discovery, Exposition, Discovery Learning, Investigation – Think Aloud.

#### **Unit-X : Dynamic Methods of Teaching**

Dynamic Methods of Teaching – Seminar, Symposium, Discussion, Panel Discussions, Workshops – Debates (Formal) – Debate (Informal) on Current Issues by Students from Class Merits and Demerits. Group Dynamics Techniques – Cooperative Learning, Buzz Sessions, Group Discussions – Peer Learning – Co-Operative Learning.

### **III. PRACTICAL WORKS**

- 1) Organisation and Participation of Class Room Seminars by the student teachers.
- 2) Practicing FIAS, Coding, Analysing and preparing report on the Effects of Analysis in the classroom.
- 3) Observing Class Room Climate during teaching practice programme and preparing a report.
- 4) Arranging Group Discussions for identifying and removing the problems in teaching and learning process.
- 5) Analysing Text Books of the class allotted during teaching practice.

### **IV. REFERENCES**

- 1) Saunders, A.N., 1955. Teaching of General Science in Tropical Secondary School, Printed in Great Britain by Butter and Taunton Limited, London.
- 2) Sharma, P.C., 2006. Modern Science Teaching, Dhanpat Rai Publications, New Delhi.
- 3) Nayak, 2003. Teaching of Physics, APH Publications, New Delhi.
- 4) Pandey, 2003. Major Issues in Science Teaching, Sumit Publications, New Delhi.
- 5) Yadav, M.S., 2003. Teaching of Science, Amol Publications, New Delhi.
- 6) Gupta, S.K., 1985. Teaching of Chemistry in Secondary Schools, Sterling Publication Pvt. Limited.
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- 8) Sharma, R.C., 1985. Modern Science Teaching, Dhanpat Rai and Sons.
- 9) Edgar Dale, Audio-Visual Methods in Teaching, Revised Edition, Thy Dryden Press, New York.
- 10) Siddiqi, 1985. Teaching of Science Today and Tomorrow, Doals House.
- 11) Patton, M.Q., 1980. Qualitative Evaluation Methods, Sage Publications, India.
- 12) UNESCO, 1979. The UNESCO Source Book for Science Teaching. UNESCO, Paris.
- 13) Panner Selvam, A., 1976. Teaching of Chemistry (Tamil), Government of Tamil Nadu.

- 14) Nair, C.P.S., 1971. Teaching of Science in our Schools, Sulthan Chand & Co. (Pvt.) Limited.
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- 16) Joseph, (1966). The Teaching of Science, Harvard University Press.
- 17) Kerr, S.T., (Ed.), Technology and the Future of Schooling, University of Chicago Press, U.S.A.
- 18) Newbury N.F., Teaching of Chemistry in Tropical Secondary Schools, Oxford University Press.
- 19) Owen, C.B. (1966). Methods of Science Master, The English Language Society and Macmillan Company Limited. New York
- 20) Thurber, Walter, A., and Collette, Alfred, T. (1964). Teaching Science in Today's Secondary School, Prentice Hall of India Pvt. Ltd.
- 21) Saunders, A.N. (1955). Teaching of General Science in Tropical Secondary School, Printed in Great Britain by Butter and Taunton Limited, London.

### **PC I-6: PEDAGOGY OF ZOOLOGY – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- 1) acquires thorough knowledge of topics in Zoology taught in higher secondary schools and the latest development.
- 2) understands the
  - importance of zoology in the modern age and the need for the teaching of zoology in schools.
  - aims and values of teaching zoology
  - objectives of teaching zoology at various levels and especially at higher secondary level.
  - need and importance of zoology curriculum and its approaches.
  - psychological basis of teaching zoology at higher secondary level.
  - organization of content in zoology and principles of developing zoology syllabus.
  - maintaining suitable class room climate and effective communication for teaching zoology.
  - modern trends in the instructional methodology and dynamic methods of teaching zoology.
- 3) Develops skills in
  - teaching zoology at higher secondary level
  - preparing, and using the appropriate instructional materials in teaching zoology.
  - preparing zoology curriculum

## II. COURSE OUTLINE

### Unit-I : Zoology Content

Zoology subject matter of higher secondary syllabus prescribed by Tamilnadu Government from time to time.

### Unit-II : Nature and Scope of Teaching Zoology

Definition and meaning of Zoology – Historical overview – The great Zoologists – The significant discoveries and inventions – Serendipity.

### Unit-III : Aims and Values of Teaching Zoology

Aims of teaching Zoology at higher secondary level – Values of teaching Zoology.

### Unit-IV : Objectives of Teaching Zoology

Objectives of teaching Zoology at higher secondary level – Objectives of teaching biology with special reference to Bloom's taxonomy – Instructional objectives and specifications of teaching Zoology – Objective based instruction.

### Unit-V : Zoology Curriculum

Recent trends in Zoology curriculum development – Various approaches such as, student, subject and environmental oriented approaches – Curriculum development and improvement practices in India.

### Unit-VI : Psychological Bases of Teaching Zoology

Contributions of Piaget – Stages of intellectual growth – Gagne's models of sequential learning – Bruner's model of concept learning – their Implications in teaching of Zoology.

### Unit-VII : Zoology Text Book

Importance of text books for learning zoology – Functions and characteristics of zoology text book – Content analysis of zoology text book at higher secondary level – Organisation of subject matter – Principles of content analysis.

### Unit-VIII : Class Room Climate

Concept of class room climate – Need for creating suitable class room climate for learning zoology – Different class room climate such as Authoritarian class room climate, Laizee fair class room climate and democratic class room climate.

### Unit-IX : Effective Communication

Theories of communication – Types of communication – Class room communication – Barriers affecting communication – Interaction analysis – FIACS.

### Unit-X : Dynamic Methods of Teaching and Learning Zoology

Team teaching – Group discussion – Seminar – Symposium – Panel discussion – Brain storming – their implications on teaching zoology.

Experimental leaning – mastery learning – Environmental based zoology learning.

## III. PRACTICAL WORK

- 1) Prepare a document on life and contributions of an eminent Zoologists.
- 2) Read and reflect on higher secondary text book of zoology and find out to what extent they satisfy the national and global requirements.
- 3) Prepare an e – assignment on the relevance of Learner Centered approach in zoology curriculum development.

- 4) Conduct a seminar on any one topic in zoology subject at higher secondary level and prepare an report.
- 5) Observe the teaching and learning process at higher secondary level and prepare a report regarding the class room climate maintained by the zoology teacher.

#### **IV. REFERENCE BOOKS**

- 1) Ameeta, P.,2005. Methods of Teaching Biological Science. Hydrerabad: Neelkamal Publications Prt.Ltd.
- 2) Bhatt, B. D., Sharma S.R., 1996. Methods of Teaching Science. Delhi: Kanishka Publishing House.
- 3) Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., &Krathwohl, D.R., (1956). Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain. New York: David McKay.
- 4) Choudhary, S., 2004. Teaching of Biology. New Delhi: APH Publishing Corporation.
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- 6) Das, R.C., 1985. Science Teaching in Schools. New Delhi: Sterling Publishers.
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- 8) Deepak Dayal, Richa Bhatt and Biswajit Ray,2007. Modern Methods of Teaching Biology. New Delhi: APH Publishing Corporation.
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- 11) Krishanamacharyulu,V., 2011. Science Education. Hyderabad: Neelkamal Publications Pvt.Ltd.,.
- 12) Lakshmi Gadde, Bhuvanewara, 2003. Methods of Teaching Life Sciences. New Delhi: Discovery publishers.
- 13) Malhotra,V., 2007. Encyclopaedia of Modern Methods of Teaching Science. New Delhi: Crescent Publishing Corporation.
- 14) Mujibul Hasan Siddiqui,2007. Teaching of Science. New Delhi: APH Publishing Corporation.
- 15) Narendera Vaidya, 1999. Science Teaching for the 21<sup>st</sup> century. New Delhi: Deep&Deep Publication.
- 16) NCERT, 1996. Science for Classes IX and X. New Delhi: NCERT Publications.
- 17) NCERT, 2006. National Curriculum Framework for School Education 2005. New Delhi: NCERT Publications.
- 18) Passi, B.K., (Ed.) 1976.Becoming Better Teacher: A Micro Teaching Approach. Ahamadabad: SahithyaMudranalaya Publishers.
- 19) Rajammal,K.,2009. Methods of Teaching Biological Science. Chennai: Santha Publication.



- 20) Rajput, J.S. (Ed.) 2002. Experiences in School Education. New Delhi: NCERT Publications.
- 21) Schmeck, R.R., 1998. Learning Strategies and Learning Styles. New York: Plenum Press.
- 22) Sharma, R.C., 2002. Modern Science Teaching. New Delhi: Dhanpat Rai Publishing Company(P) Ltd.
- 23) Sood, J.K., 1985. Teaching Life Sciences. Delhi: Kohli Publications.
- 24) Taylor, D.J. and Others, 2004. Biological Science. London: Cambridge University Press.
- 25) Trowbridge, L.W. & Bybee, R.W., 1996. Teaching Secondary School Science. (6th ed.). Englewood Cliffs. NJ: Prentice Hall Inc.

### **PC I-7: PEDAGOGY OF BOTANY – [PART-1]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- 1) acquires knowledge of the concepts, terms and procedures in the innovations, trends and approaches of teaching Botany.
- 2) understands the
  - Concepts, terms and procedures in the innovations, trends and approaches of teaching Botany.
  - maintaining suitable class room climate and effective communication for teaching Botany.
  - applies the knowledge in actual classroom situations.
- 3) develops skill in
  - various activities pertaining to teaching and learning.
  - teaching Botany at higher secondary level.
  - preparing, and using the appropriate instructional materials in teaching Botany.
  - preparing Botany curriculum
- 4) develops interest in knowing recent development in the innovations, trends and approaches of teaching Botany.
- 5) develops scientific attitude towards teaching and learning.
- 6) appreciates the contribution of the subject to the teaching and learning.

#### **II. COURSE OUTLINE**

##### **Unit-I : Botany Content**

Botany subject matter of higher secondary syllabus prescribed by Tamilnadu Government from time to time.

##### **Unit-II : Nature and Scope of Teaching Botany**

Definition and meaning of Botany – Historical overview – The great Botanical scientists – The significant discoveries and inventions – Serendipity.

**Unit-III : Aims and Values of Teaching Botany**

Aims of teaching Botany at higher secondary level – Values of teaching Botany.

**Unit-IV : Objectives of Teaching Botany**

Objectives of teaching Botany – Instructional objectives for teaching Botany at higher secondary level – Instructional objectives and specifications of teaching Botany.

**Unit-V : Botany Curriculum**

Recent trends in Botany curriculum development – Various approaches such as, student, subject and environmental oriented approaches – Curriculum development and improvement practices in India.

**Unit-VI : Psychological Bases of Teaching Botany**

Contributions of Piaget – Stages of intellectual growth – Gagne's models of sequential learning – Bruner's model of concept learning – their Implications in teaching of Botany.

**Unit-VII : Botany Text Book**

Importance of text books for learning Botany – Functions and characteristics of Botany text book – Content analysis of Botany text book at higher secondary level – Organisation of subject matter – Principles of content analysis.

**Unit-VIII : Class Room Climate**

Concept of class room climate – Need for creating suitable class room climate for learning Botany – Different class room climate such as Authoritarian class room climate, Laizee fair class room climate and democratic class room climate.

**Unit-IX : Effective Communication**

Theories communication – Types of communication – Class room communication – Barriers affecting communication – Interaction analysis – FIACS.

**Unit-X : Dynamic Methods of Teaching and Learning Botany**

Team teaching – Group discussion – Seminar – Symposium – Panel discussion – Brain storming – their implications on teaching Botany.

Experimental leaning – mastery learning – Environmental based Botany learning.

**III. PRACTICAL WORK**

- 1) Prepare and submit a brief sketch of contribution of five botanical scientists.
- 2) To conduct any five Experiments at higher secondary level.
- 3) Submit a report about field visit to a Botanical garden.
- 4) Prepare and submit five Herbarium specimens.
- 5) Collect and submit any five medicinal plants and their uses.

**IV. REFERENCE BOOKS**

- 1) Narendera Vaidya, 1999. Science Teaching for the 21<sup>st</sup> Century, Deep & Deep Publication, New Delhi.
- 2) Sharma, R.C., 2002. Modern Science Teaching, Dhanpat Rai Publishing Company (P) Ltd, New Delhi.
- 3) Yadav, M.S., 2003. Teaching of science teaching, Anmol Publications, New Delhi.
- 4) Pandey, 2003. Major Issues in Science Teaching, Sumit Publications, New Delhi.
- 5) Ameeta, P., 2005. Methods of Teaching Biological Science, New Delhi.

- 6) Venugopal, G. and Nithyasri, N.,2005. Teaching of Biology,Ram Publishers,Chennai.
- 7) Mujibul Hasan Siddiqui,2007. Teaching of Science, APH Publishing Corporation,New Delhi.
- 8) Deepak Dayal,Richa Bhatt and Biswajit Ray,2007. Modern Methods of Teaching Biology, APH Publishing Corporation, New Delhi.
- 9) Aggarwal, D.D., 2008.Modern Method of teaching Biology, Karanpaper backs, New Delhi.
- 10) Rajammal, K., 2009. Methods of Teaching Biological Science,Santha Publication.
- 11) Krishanamacharyulu, V., 2011. Science Education,Neelkamal Publications Pvt.Ltd., Hydrabad.

### **PC I-8: PEDAGOGY OF COMPUTER SCIENCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires knowledge of the aims and objectives of computer science.
- understands the nature and scope of computer science, the principles of curriculum construction and organization of subject matter, psychology of learning computer science.
- the special qualities of a good computer science teacher, acquire those qualities and to evaluate himself or herself.
- applies the knowledge in interaction of analysis in actual class room situation and teaching strategies.
- develops skill in effective communication.
- develops interest in knowing dynamic methods of teaching computer science.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

#### **II. COURSE OUTLINE**

##### **Unit-I**

Computer science Subject Matter Specified in Standard XI to XII in Computer science Syllabus By Tamilnadu Government from time to time respectively.

##### **Unit-II : Nature and Scope**

Nature of Computer science – History of Computer science – Contribution of Indian Scientists Computer science, Scope of Computer science.

##### **Unit-III : Aims and Values of Teaching Computer Science**

Important Aims Of Teaching Computer science at Higher Secondary Level – Values Of Computer science – Intellectual, Practical, Disciplinary, Moral, Cultural, social And Aesthetic.

##### **Unit-IV : Objectives of Teaching Computer Science**

A. General and Specific Objectives of Teaching Computer science.

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains).

C. Objectives of Teaching Computer science at Different Levels – Primary, Secondary, Higher Secondary.

#### **Unit–V : Curriculum**

Learning theory foundation for instructional design – Task analysis – Content analysis – Recent Trends in Curriculum Development – Student – Subject and Environment Oriented Approaches – Curriculum Development and Improvement Practices in India.

#### **Unit–VI : Psychological Basis of Teaching Computer Science**

Psychology of Learning Computer science – Gagne's Types of Learning, The Ideas of Piaget and Psychological Aspects – Models of Teaching – Significance of Models – Components. Models Developed by Bruner, Ausubel and Suchman – Advantages and Disadvantages – Dewey's Contribution – Dalton Plan.

#### **Unit–VII : Computer Science Text Book**

Text Book – Characteristics – Appropriate Use of It – Uses of Text Book – Importance of Text Book – Difference between work books and text books.

#### **Unit–VIII : Classroom Climate**

Class Room Climate – Authoritarian – Laize Faire and Democratic Climates – Borich three types of classroom climate competitive, cooperative and individualistic types – Components of classroom management, 1. Management of the Physical Environment 2. Management of learning 3. Management of classroom rules 4. Management of the Discipline – Strategies of classroom management.

#### **Unit–IX : Effective Communication**

Principles of communication – Modes of communication – classroom communication – Communication and Interaction – Teaching Strategies – Guided Discovery, Exposition, Discovery Learning, Investigation – Think Aloud.

#### **Unit–X : Dynamic Methods of Teaching**

Dynamic Methods of Teaching – Seminar, Symposium, Discussion, Panel Discussions, Workshops – Debates (Formal) – Debate (Informal) by Students – Merits and Demerits. Group Dynamics Techniques – Buzz Sessions, Group Discussions.

### **III. PRACTICAL WORK**

- 1) Organisation and Participation of Class Room Seminars by the student teachers.
- 2) Practicing FIAS, Coding, Analysing and preparing report on the Effects of Analysis in the classroom
- 3) Observing Class Room Climate during teaching practice programme and preparing a report.
- 4) Arranging Group Discussions for identifying and removing the problems in teaching and learning process.
- 5) Analysing Text Books of the class allotted during teaching practice.

#### IV. REFERENCES

- 1) Rao, P.V.S., 1981. Computer Programming, TMH, Delhi.
- 2) Roger Humt Hon Shelley, 1975. Computers and Common Sense, Prentic Hall (India) Delhi.
- 3) Shied, Introduction to Computer Science, SCHAVM.
- 4) StanelyPogrow, Education in the Compute Age, Sage Publication, Delhi, 1993.
- 5) Steeven M. Rass, Basic Programmking for Education, Pentic Hall, New York, 1990.
- 6) Jared Keengve, Grace Onchwari, James.N.Oigara, 2014. Promoting Active learning through Flipped Classroom model, US of America.

#### PC I-9: PEDAGOGY OF HISTORY – [PART-1]

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### I. OBJECTIVES

The student teacher

- acquires the knowledge of “history of history” and its theories.
- acquires the knowledge of the concepts, terms and current trends in history education.
- understands the authenticity of history and historiography.
- understands the philosophical and sociological basis of teaching history.
- understands the curricular approaches, curriculum change and innovative methods of teaching history
- develops skill by using of various types of teaching aids
- applies the knowledge of history in actual life situation.

#### II. COURSE OUTLINE

##### Unit-I : Content

Subject matter specified in the history syllabus for standard XI - XII prescribed by the Tamilnadu Government from time to time.

##### Unit-II : Nature and Development of History

The meaning and scope of history – Different conceptions of history – Development of history as a field of study – Indian historians and their contributions to history – Implications of various conceptions of history to teachers – Is history an art or science.

##### Unit-III : Philosophical Basis of History

- 1) History as an imaginative reconstruction of the past.
- 2) History as a branch of social science – correlated with literature, geography, political and economics.
- 3) Making of history – How history is written – Collection of sources – Documents – Authenticity and Historiography.
- 4) Approaches to History – Individual oriented – Society oriented, cultural oriented. Sociological basis of history – Education reports on history education (various commissions report)

**Unit-IV : History – Its Features and Dimensions**

Dimensions of history – Continuity development – Time and place – Geographical foundations of history – Chronological divisions of history.

**Unit-V : Goals of Teaching History**

The need and importance of teaching history – Aims and objectives – General and specific – Values – Practical, intellectual, social, moral and cultural.

**Unit-VI : Objectives**

Instructional objectives and specifications of teaching history – Bloom's taxonomy of educational objectives – Meaning and limitations.

**Unit-VII : Recent Trends in Curriculum**

- Curriculum development in history
- Curriculum construction (Selection, graduation and organization) – Content, principles of selection: Individual, social and national needs.
- The claims of local history, National history and world history.
- Chronology in history – Sequence in history, Location, Distance – Duration of historical events in the perspective of time.
- Theories influencing selections of materials – Doctrine of natural taste and interest – Cultural epoch theory.
- The development of history curriculum in Tamilnadu – the principles, problems and prospects – Critical analysis of existing Higher Secondary syllabus.

**Unit-VIII : History Text Book**

Importance of text book – materials – uses of textbooks in history – criteria for a good history text book.

**Unit-IX : Effective Communication**

Meaning and forms of communication – communication cycle – Types of communication – Effective classroom communication – Flander's system of Interaction analysis.

**Unit-X : Dynamic Methods for Teaching and Learning**

Instructional strategies for teaching history – Problem solving method – Source method – Panel discussion – Seminar – Symposium – Workshop – Supervised study – Brain storming and Team Teaching.

**III. PRACTICAL WORK**

- 1) Critically evaluate the history textbook for standard XI, prescribed by the Tamilnadu Government.
- 2) A project report about to visit any one of the place of historical importance.
- 3) Write any three Indian historians and their contribution to the nation.
- 4) Collection of antique materials.
- 5) Prepare a chart showing different states and its capitals in India.

**IV. REFERENCE BOOKS**

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- 2) Chaudhary, K.P., The Effective Teaching of History, N.C.E.R.T., New Delhi.
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- 6) Terry Haydn, et.al., Learning to Teach History in the Secondary School, Methuen and Co. Ltd., London, 2003.
- 7) Biranchi Narayan Dash Teaching of History, Neel Kamal Publications Pvt. Ltd. New Delhi, 2006.
- 8) Singh, Y.K., Teaching of History: Modern Methods, APH Publishing Corporation, New Delhi, 2004.
- 9) Vajreswari, R.A., HandBook for Teachers, Allied Publishers, Madras, 1973.

### **PC I-10: PEDAGOGY OF ECONOMICS – [PART-1]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of methods of teaching economics
- understands the principles, types, procedures and planning of teaching economics at the higher secondary level.
- applies the method of teaching to various aspects of economics
- develops the skill of
  - a) Teaching Economics, organizing economic experiences
  - b) Testing through various techniques
  - c) Using various graphic, other types of teaching aids for the class room
  - d) Develops favourable attitude towards the changes in the teaching of economics.

#### **II. COURSE OUTLINE**

##### **Unit-I: Nature and Scope of Economics**

Meaning – Scope and Definition of Economics – Economics in Education – Fields of Economics – Agriculture, Industry, Marketing, Banking, Public Finance and Foreign trades.

##### **Unit-II: Modern Trends in Economics Education**

Economics – Trends in curriculum development of Tamilnadu Higher Secondary stages – Importance of Planning of teaching – context of planning of teaching.

##### **Unit-III : Aims and Values of Teaching Economics**

Aims of teaching Economics – classification of aims – At different stages inculcating values of teaching Economics, Methods of inculcating values through the study of Economics – classification of values.

##### **Unit-IV : Constructive Approaches of Teaching Economics**

Introduction – Objectives – Taxonomical approach – Bloom's Taxonomy – Classification of instructional objectives – Instructional and Specific objectives – construction in teaching economics.

**Unit-V : Curriculum in Economics of Teaching**

Meaning – Importance – Blue print – Higher Secondary and CBSE syllabus – curriculum organization – Suggestions for framing good curriculum – features of economics curriculum.

**Unit-VI : Curriculum in Teaching Materials different Boards**

XI and XII Economics syllabus prescribed by Government of Tamilnadu from time to time with reference books materials – Comparison of CBSE and State board syllabus.

**Unit-VII :Issues in Economics Teaching**

Contemporary issues and economics issues related to the teaching of economics – Crimes – Security scams, Bank cheating, Cyber rule violation – Types of Technical aspects of Cyber crime – Financial corruption in different levels – Mixed Economy – Corruption in India – causes – effects – fields and remedies.

**Unit-VIII :Legislation and Policies**

Legislation – Privatization – Liberalization – Globalization – Disinvestment – Tele shopping – Merits and Demerits – Internal and External market.

**Unit-IX : Development of Teaching Skill**

Micro teaching – Meaning – Definition – concepts – Skill development teaching – Significance of teacher training.

**Unit-X : Methods of Teaching Economics**

Lecturer method – Descriptive method – Objective based method – Problem Solving method – Project method – Inductive and Deductive method – Case method – Dynamic method.

**III. PRACTICAL WORK**

- 1) Prepare a classified schemata of fields of Economics.
- 2) List own the values of teaching Economics.
- 3) Prepare a blue – print of the economics text book at the higher secondary stage.
- 4) Design the taxonomical structure of teaching economics.
- 5) Arrange the Instructional objectives of any two lessons in Economics.

**IV. REFERENCES**

- 1) Aggarwal, J.C., 2011. Teaching of Economics (A Practical Approach), 2<sup>nd</sup> Edition, Vitas Publishing House.
- 2) AmitaYadav, 1995. Teaching of Economics FIRST EDITION, Anmol Publication Pvt. Ltd., New Delhi.
- 3) Siddiqui, M.H., 2008. “Teaching of Economics”, APH Publications, New Delhi.
- 4) Rudramamba, et.al., 2010. Educational Methods of Teaching Economics, Discovery Publishing House, New Delhi.
- 5) Tonne, Popham and Freeman, 1995. Methods of Teaching Business Subjects, McGraw Hill.
- 6) Kochar, S.K., The Teaching of Social Studies Sterling Publishers Pvt. Ltd., New Delhi.
- 7) Ebel and L.Robert, 1965. Measuring Educational Achievement, Prentice Hall International Inc., USA.



- 8) Binning, A.C. and D.A. Binning, Teaching the Social Studies in Secondary School, McGraw Hill, New York.
- 9) Keith Lumsden, 1967. New Developments in the Teaching of Economics, Prentice Hall the Englewood, New jersey.

### **PC I-11: PEDAGOGY OF COMMERCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The Student teacher

- acquires knowledge of the principles of content and conceptual analysis.
- understands the various aspects of content analysis.
- applies the knowledge in analyzing the commerce and accountancy content in pedagogical terms.
- develops skill in construction and preparation of lesson plans, question papers and teaching aids.
- develops interest in analyzing the various commerce course contents in pedagogical terms.
- develops a desirable positive attitude towards teaching commerce.

#### **II. COURSE OUTLINE**

##### **Unit-I : Nature of Scope**

Introduction – nature and scope meaning – definition – components scope of commerce – importance, Meaning of commerce education – commerce and Economics – their mutual relationships.

##### **Unit-II : Trends in Commerce Education**

Modern trends in commerce education – major divisions of commerce – trade, Transport, Warehousing, Banking, Insurance, Advertising, Accounting and Auditing.

##### **Unit-III : Aims and Objectives**

Aims and objectives of teaching commerce – values of teaching commerce – theoretical, practical, social and vocational and cultural.

##### **Unit-IV : Taxonomical Approach**

Blooms Taxonomy approaches to teaching of commerce – instructional objectives – specifications – the experience of learning – principles of objective based instruction OBI – Constructivist approach.

##### **Unit-V : Commerce Curriculum**

Meaning of Curriculum – importance of curriculum – principles involved curriculum construction – higher secondary commerce and accountancy syllabi – academic and vocational stream of commerce – identified in Tamil Nadu higher secondary level – suggestion for the improvement of curriculum.

##### **Unit-VI : Curriculum and Teaching Materials – Different Levels**

Collection of materials – gradation of materials for schools and colleges level – comparison of CBSE and state board commerce and accountancy curriculum – academic and vocational streams.

**Unit-VII : Issues in Commerce Teaching**

Contemporary commercial issues and economic issues related to the teaching of commerce and accountancy – WTO – economics crimes – security scam – FERA and FEMA. Commerce and cyber rules – violation.

**Unit-VIII :Legislation and Policies**

Liberalization – Privatization – Globalization – dis investment – green consumer. population – environment issues – e – trade commerce, tele shopping – issues and prospects and consumer protection movements and acts – adultration acts.

**Unit-IX : Development of Teaching Skills**

Micro teaching – definition – concept – meaning – micro teaching cycle – different skills in teaching commerce – significance uses in teacher training.

**Unit-X :: Methods of Teaching**

Various methods of teaching commerce – lecturer method – descriptive method – objective based method – demonstration method – problem method – project method – inductive method – deductive method – case study – student’s motivated techniques – surveys and market studies.

**III.PRACTICAL WORK**

- 1) Prepare advertisement for Commerce
- 2) Prepare a case study of an organization
- 3) Contact market survey
- 4) Visit to various insurance company
- 5) Prepare share market colander for three months

**IV. REFERENCE BOOKS**

- 1) Ebel. Rober, L., Measuring Educational Achievement, Prentice Hall International, Inc. USA, 1965.
- 2) Kochhar, S.K., Methods and Techniques of Teaching, Sterling Publishers, New Delhi, 1992.
- 3) Nagarajan, K.L., Principles of Commerce and General Knowledge, S.Chand& Company Ltd, New Delhi, India, 1977.
- 4) OsualaEsogwa, Business Education Principles and Practices, Anu Books, Meerut, India, 1987.
- 5) Dececee John, P. and et.al., The Psychology of Learning and Instruction, Prentice Hall of India, New Delhi.
- 6) Pia Nazareth, M., Education – Goals, Aims and objectives, Vikas Publishing House Pvt., Ltd., 1984.
- 7) Tonne, Pophan and Freeman, Methods of Teaching Businees Subjects, McGraw Hill 1965.
- 8) Tarachand, Principles of Teaching, Anmol Publishing, New Delhi, 1990.
- 9) Leu, M. Carey, Measuring and Evaluating School Learning, Allyn and Bacon Inc. USA, 1988.

**PC II-1: PEDAGOGY OF TAMIL – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The Student teacher

- acquires the knowledge of the importance of tamil language and literature.
- understands the language skills and coining of technical terms.
- develops interest in teaching with different methods
- develops positive attitude towards tamil language teaching.

**II. COURSE OUTLINE****Unit-I : History of Tamil Language**

Language – character – origin – nature and importance – unique features – sub classification of Tamil language – spoken tamil – written Tamil.

**Unit-II : Developing Writing Skill**

Writing skill – Hand writing – without spelling mistakes – writing drills – some basic trainings – Causes for bad hand writing – spelling mistakes – remedial measures – characters of good hand writing – beauty – space – composition, dictation, precision, etc.,

**Unit-III : Planning of Teaching**

Objective based teaching – organization of tamil teaching – lesson plan – Unit plan – Semester plan – Year plan.

**Unit-IV : Word Formation in Tamil**

Word formation – Coning of new words in Tamil – Thoughts of experts – Trails – How to create scientific and Technological words in Tamil – Characters – Language principles – simplicity brevity – accuracy – select old words – problems in coining new words.

**Unit-V : Social Aspects**

Social aspects in language learning – social and cultural aspects involved in language learning nature and society – being a part in language growth, – Tamil teaching and value education, language and economical aspects.

**Unit-VI : Tamil Literature**

Tamil literature – poems – concepts of foreigners and Indian – Imagination – feelings, structure, contents – Beauties of Tamil poems.

**Unit-VII : Origin and Development of Drama**

Drama – Origin and development – sangam literature as a part of drama – dramatical notations in silappathikaram – organization of Drama – classification – modern drama – plays – Radio dramas – Television dramas – Language aspects – Dramatization of Tamil poems – Techniques in drama.

**Unit-VIII : Origin and Development of Poetry**

Modern poetry – Grammatical aspects – origin and development – present position – poems from Bharathi to present days – contents – Aims of modern poetry.

**Unit–IX : Folk Literature**

Folk literature – Thaltu(lulus) poems – professional poems – love songs – story songs – spiritual songs – Opari songs – songs of small folk gods – contents of the poems.

**Unit–X : Travelogue and Aatrupadai poems**

Travelogue and Aatrupadai poems – a comparative study – explanation – uses – songs of children – explanation development – Autobiography – books – An auto biography of an yogi – sathyasothanai – wings of fire – School magazine organized and conducted.

**III. PRACTICAL WORK**

- 1) Small Elocution without preparation.
- 2) Dramatization of Tamil poems.
- 3) Prepare a chart with prefixes and suffixes.
- 4) Highlight different ways of word formation.
- 5) Write a critical analysis of a language textbook.

**IV. REFERENCE BOOKS**

- 1) Subbureddiyar, R., 2001., Tamil PayitumMuraikal, ManivasaharPathipagam, Chidambaram.
- 2) Varadarajan, M.V., 1995.MozhiVaralaru, KazhagaValiyidu, Chinnai.
- 3) Kalaichelvi, V., 2008.KalviyiyalSirapu Tamil, SanjiviValiyidu, Erode.
- 4) Ganapathi, V.,2005.NatamilKarpikumMuraigal– Part I, Santha Publishers, Chennai.
- 5) Alagappan,R.,1987.NadagathinThotamumValarchiyum, AnnamalaiUniversity, Chidambarm.

**PC II–2: PEDAGOGY OF ENGLISH – [PART–1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the pedagogy of English
- understands the concepts, terms and procedure in the innovations, trends, and approaches of teaching English
- applies the knowledge in actual classroom situations
- develops interest in various activities pertaining to teaching and learning of English
- develops interest in knowing recent developments in the innovations, trends, and approaches of teaching English
- develops positive attitude towards teaching and learning of English
- appreciates the contribution of English language to the process of teaching and learning

## II. COURSE OUTLINE

### Unit-I : Teaching of Content

Subject matter of VI to X Standard English textbooks prescribed by Tamilnadu government from time to time – Advanced Grammar – Noun phrase – verb phrase – types of sentences – basic sentence patterns – active and passive voice – direct and indirect speech – question forms – tag questions.

### Unit-II : Aims of Teaching English

Aims of teaching English – at Higher Secondary Level – Fundamental Aims – Four Basic Skills.

### Unit-III : Objectives of Teaching English

Four Fold Objectives – Blooms Taxonomy – Objective Based Instruction at higher secondary level – Instructional objectives and specific learning outcomes.

### Unit-IV : Theories of Language Learning

Language learning – theories – difference between learning L1 and L2 – influence of mother tongue – barriers for learning a foreign language.

### Unit-V : Principles of Language Teaching

Principles – speech before writing – habit formation – proper order and proportion – passive and active vocabulary.

### Unit-VI : Factors Affecting Language Learning

Psychological factors affecting language learning – attitude – desires – motives – intelligence – emotions – readiness – rewards and punishments – Sociological – factors affecting language learning – home environment – school environment – utility of language.

### Unit-VII : Policies and Problems in Language Education

Policies related to language curriculum in schools at different levels – policies and issues related to medium of instruction – three language formula – implementation – controversies – multilingualism – language diversity in classroom – problems of teaching English in India.

### Unit-VIII : Methods of Teaching English

Translation Method – Direct Method – Substitution Method – Bilingual Method – Audio lingual method – – meaning – principles – merits and demerits.

### Unit-IX : Approaches of Teaching English

Structural approach – situational approach – communicative approach – Meaning – Principles – Merits and Demerits.

### Unit-X : Types of Courses

Need for designing of courses – target group – English for global purpose – English for specific purpose – EAP – EST – EOP – Remedial English Course – course implementation benefits.

## III. PRACTICAL WORK

- 1) Prepare a chart with prefixes and suffixes.
- 2) Highlight different ways of word formation.
- 3) Enlist different types of errors committed by Indian students.
- 4) Write a critical analysis of a language textbook.
- 5) Narrate of a story with a good social message.

#### IV. REFERENCES

- 1) Anne, V.K., 2001. Methods of Teaching English. Hyderabad: New Era Publications.
- 2) Baruah, T.C., 2006. The English Teachers Handbook. New Delhi: Sterling Publishers.
- 3) Close, R.A., 1999. English as a Foreign Language. London: Longman.
- 4) Dash, B.N., 2007. Teaching of English . New Delhi: Dominant Publishers
- 5) Halliday, M.A.K., 1998. Language as a Social Semiotic. London: Arnold Publications.
- 6) Jack, Richards, 2012. Approaches and Methods in Language Teaching. London: Cambridge
- 7) Jindal, D.V., 2008. An Introduction to Linguistics. New Delhi: Prentice Hall.
- 8) Krishna Babu, S.,et.al. 2009. Reading Disabilities. New Delhi: Sonali.
- 9) Kohli, A.L.(2006) Techniques of Teaching English. New Delhi: Dhanapat Rai Publications.
- 10) Kishnaswamy, N., 2005. Teaching of English Grammar. Chennai:T.R.Publications.
- 11) Mowla, Shaikh, 2006. Techniques of Teaching English.Hyderabad:Neelkamal.
- 12) Pahuja, N.P., 2009. Teaching of English. New Delhi: Anmol Publications.
- 13) Swan, Michael, 2002. Practical English Usage. Oxford: OUP.
- 14) Venkateswaran, S., 2011. Principle of Teaching English. New Delhi: Vikas Publishing House.
- 15) Vallabhi, J.E., 2012. Teaching of English II:Principles and Practices. Hyderabad: Neekamal.

#### PC II-3: PEDAGOGY OF MATHEMATICS – [PART-1]

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### I. OBJECTIVES

The Student Teacher

- acquires knowledge of the aims and objectives of mathematics
- understands the nature and scope of mathematics, the principles of curriculum construction and organization of subject matter, the technological method of teaching mathematics
- applies knowledge in the technological methods of teaching
- develops the skills in the approaches of learning mathematics teaching of mathematics and to develop the skills in them through classroom teaching
- develops interest in planning their lessons in different approaches of learning mathematics
- develops a positive attitude towards various teaching skills and the importance of teaching skills

## II. COURSE OUTLINE

### Unit-I

Mathematics Subject matter Specified in Standard VI to IX of Mathematics Syllabus prescribed by Tamilnadu Government from time to time respectively.

### Unit-II : Nature and Scope

Nature of Mathematics – History of Mathematics – Contribution of Indian Mathematician, Scope of Mathematics. Correlation of Mathematics with Different Subjects.

### Unit-III : Aims and Values of Teaching Mathematics

Important Aims of Teaching Mathematics at Secondary Level – Values of Mathematics – Intellectual, Practical, Disciplinary, Moral, Cultural, Social and Aesthetic.

### Unit-IV : Objectives of Teaching Mathematics

A .General And Specific Objectives of Teaching Mathematics

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains).

C. Objectives of Teaching Mathematics at Secondary Level.

### Unit-V : Curriculum

Principles of Selection of Content Materials for Mathematics Curriculum in Schools, Arrangement of curriculum – Revision of the Curriculum – Problems – Different types of Problems – Recommendations of commissions – Evaluation of syllabus.

### Unit-VI : Problem – Solving Method and Mathematical Attitude

Problem – solving method – characteristics of a good problem in mathematics – steps – Merits – De Merits – Mathematical Attitude.

### Unit-VII : Approaches of Learning Mathematics

Cooperative Learning – Contextual Learning – Mastery Learning – Constructivism – Self Access Learning – Active Learning Tasks – Investigatory Approach, Concept Mapping, Collaborating Learning And Experiential Learning.

### Unit-VIII : Teaching Methods

Lecture Method, Lecture cum Demonstration Method, Problem Solving Method, Laboratory, Project Method Heuristic Method, Inductive and Deductive Methods Analytic and Synthetic Method, Project Method, ALM, MLM Method.

### Unit-IX : Technological Method of Teaching – Individualisation of Education

Individualised Instruction – Individualisation of Education – Individualised Learning Techniques– –Programmed Learning – Principles – Linear Programme – Branching Programme – Computer Assisted Instruction. System Approach in Education – Characteristics – Personalised System of Instruction.

### Unit-X : Developing Teaching Skills

Microteaching And Its Scope – Microteaching Cycle – Skill of Introduction, Skill of Explaining, Skill of Stimulus Variation, Skill of Reinforcement, Skill of Questioning, Skill of Using Blackboard, Skill of Demonstration, Skill of Achieving Closure, Skill of Probing Questions.

**III. PRACTICAL WORK**

- 1) Preparation of scrap book on the development of mathematics.
- 2) Preparation of essays on the contribution of Mathematicians.
- 3) Evaluating syllabus of any one of the standard at secondary level and preparing report.
- 4) Presentation of Computer Assisted Instruction on any topic.
- 5) Preparation of Linear Programme & Branching Programme frames on the topics in Mathematics.

**IV. REFERENCE BOOKS**

- 1) Ball, W.N.R., 1893. A Short History of Mathematics, Mac.Milan, New York.
- 2) Baur, George, R.R. George, Linda Olsen(1976 )*Helping Children Learning Mathematics*, Cunnings Publishing Company, Inc.
- 3) Bell, E.T.,1952. *Mathematics*, Queen and Servant of Sciences, McGraw Hill, New York.
- 4) Sudhir Kumar,1993.*The Teaching of Mathematics*, Anmol Publications, New Delhi.
- 5) Sidhu, Kulbra,1987.*The Teaching of Mathematics*, Sterling Publishers, New Delhi.

**PC II-4: PEDAGOGY OF PHYSICAL SCIENCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The Student – Teacher

- acquires knowledge of the aims and objectives of physical science
- understands the nature and scope of physical science, the principles of curriculum construction and organization of subject matter, the technological method of teaching physical science
- applies knowledge in the technological methods of teaching
- develops the skills in the approaches of learning physical science teaching of physical science and to develop the skills in them through classroom teaching
- develops interest in planning their lessons in different approaches of learning physical science
- develops a positive attitude towards various teaching skills and the importance of teaching skills

**II. COURSE OUTLINE****Unit-I**

Physics and physical science subject matter specified from Standard VI to IX in science syllabus by tamilnadu government from time to time.

**Unit-II : Nature and Scope**

Nature of Physical science – History of Physical science – Contribution of Indian Scientists Science, Scope of Physical science. Correlation of Physical science with Different Subjects.



**Unit-III : Aims and Values of Teaching Physical Science**

Important Aims of Teaching Physical science at Secondary Level – Values of Physical science – Intellectual, Practical, Preparatory, Moral, Cultural, Rational and Aesthetic.

**Unit-IV : Objectives of Teaching Physical Science**

A .General and Specific Objectives of Teaching Physical sciences.

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains).

C. Objectives of Teaching Physical science at Secondary Level.

**Unit-V : Curriculum**

Principles of Selection of Content Materials for Science Curriculum In Schools, Modern Trends In Curriculum Development PSSC, CHEM Study And Chemical Bond Approach.

**Unit-VI : Scientific method and Scientific Attitude**

Scientific Method – Steps – Observation, Enquiry, Hypothesis, Experimentation, Data Collection, Generalisation – Merits – Demerits and – Scientific Attitude.

**Unit-VII : Approaches of Learning Physical Science**

Pedagogical Shift from Science as Fixed Body of Knowledge to Process of Constructing Knowledge, Communication in Science/Physical science, Problem Solving, Investigatory Approach, Concept Mapping, Collaborating Learning and Experiential Learning in Science/Physics and Physical science (Teacher – Learner Will Design Learning Experiences using each of these Approaches), Facilitating Learners for Self Study.

**Unit-VIII : Teaching Methods**

General Methods: Lecture Method, Lecture Cum Demonstration Method, Problem Solving Method, Laboratory, Project Method Method Heuristic Approach, Historical and Biographical Approaches, Method, Analytic and Synthetic Method, Project Method, ALM, MLM Method.

**Unit-IX : Technological Method Of Teaching – Individualisation Of Education**

Individualised Instruction – Individualisation of Education – Individualised Learning Techniques – – Programmed Learning – Principles – Linear Programme – Branching Programme – Computer Assisted Instruction. System Approach in Education – Characteristics – Personalised System of Instruction.

**Unit-X :: Developing Teaching Skills**

Microteaching and Its Scope – Microteaching Cycle – Skill of Introduction, Skill of Explaining, Skill of Stimulus Variation, Skill of Reinforcement, Skill of Questioning, Skill of Using Blackboard, Skill of Demonstration, Skill of Achieving Closure, Skill of Probing Questions.

**III. PRACTICAL WORK**

- 1) Preparation of scrap book on the development of physical science.
- 2) Preparation of essays on the contribution of scientists.
- 3) Evaluating syllabus of any one of the standard at secondary level and preparing report.

- 4) Presentation of Computer Assisted Instruction on any topic.
- 5) Preparation of Linear Programme & Branching Programme frames on the topics in Physical science.

#### **IV. REFERENCE BOOKS:**

- 1) Boulind, H.E., 1972. The Teaching of Physics in Tropical Secondary School, Oxford University, London.
- 2) Dale, E.D., 1970. Audio Visual Methods Teaching, Dryden Press, New York. of Science in Our School, Chand & Co. P. Ltd., New Delhi.
- 3) Newbur, N.F., 1983. Teaching of Physical science in Tropical Secondary Schools, Oxford University Press, London.
- 4) Sharma, R.C., 1976. Modern Science Teaching, Dhanpet Rai & Sons, Delhi.

#### **PC II-5: PEDAGOGY OF BIOLOGICAL SCIENCE – [PART-1]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- 1) acquires thorough knowledge of topics in natural science taught in secondary schools and the latest developments.
- 2) understands the
  - importance of biological science of the modern age and the need for the teaching of biological science in schools
  - aims and values of teaching biological science
  - objectives of teaching biological science at various levels and especially in the secondary schools
  - different steps involved in the scientific methods and ways of developing scientific attitude
  - various approaches and methods of teaching biological science
  - organization of content in biology and principles of developing biological science syllabus
  - teaching skills for teaching biological science.
- 3) develops skills in
  - teaching biological science at secondary level
  - preparing, and using the appropriate instructional materials in biological science
  - preparing biological science curriculum.

#### **II. COURSE OUTLINE**

##### **Unit-I : Biological Science Content**

Biological science subject matter of VI, VII, VIII, and IX syllabus prescribed by Tamilnadu Government from time to time.

##### **Unit-II : Nature and Scope of Teaching Biological Science**

History of biological science and its nature – Importance of Biological science and its place in the school curriculum – Biological science for environment and

health, peace and equity – Impact of biology on modern communities – The significant discoveries and inventions in biology – Great Indian Biologist.

### **Unit–III : Aims and Values of Teaching Biological Science**

Aims of teaching biological science at secondary level – Values of teaching biological science.

### **Unit–IV : Objectives of Teaching Biological Science**

Objectives of teaching biological science at secondary level – Objectives of teaching biology with special reference to Bloom’s taxonomy – Instructional objectives and specifications of teaching biological science – Objective based instruction.

### **Unit–V : Biological Science Curriculum**

Principles of curriculum construction in biological science – Selection of content and organization of subject matter – BSCS and Nuffield secondary science project – NCERT curriculum.

### **Unit–VI : Scientific Method and Scientific Attitude**

Meaning, procedure and steps in scientific method – Elements of scientific method – Meaning and concept of scientific attitude – Ways of developing scientific attitude.

### **Unit–VII : Approaches of Learning Biological Science**

Problem solving, investigatory approach, concept mapping, collaborative learning and experimental learning in biological science.

### **Unit–VIII : Methods of Teaching Biological Science**

Concept of teaching method – Need of variety of teaching method – Characteristics of good teaching method – Selection of a teaching method – Various methods of teaching biological science – Lecture method, Demonstration method, Project method, Heuristic Method, Biographical and Assignment method.

### **Unit–IX : Technology Based Methods**

Concept, types and advantages of Programmed instruction – Computer Assisted Instruction – Teaching Module – Mass media for learning biological science.

### **Unit–X : Developing Teaching Skills**

Concept of Teaching Skill – Importance and techniques of developing teaching Skills – Micro teaching technique – Types of teaching skills – set induction, skills of motivation, use of black board, probating questioning, reinforcement, promoting students participation, using examples and closure.

## **III. PRACTICAL WORK**

- 1) Prepare an e-document on life and contributions of an eminent Biologists.
- 2) Prepare an e-learning material based on any topic in biological science at secondary school level.
- 3) Read and reflect on any one secondary school biological science textbook and find out to what extent they satisfy the national and global requirements.
- 4) Prepare a concept map/mind map on any topic in biological science.
- 5) Prepare a programmed instruction material for any one of the concept in biological science.

**IV. REFERENCE BOOKS**

- 1) Ameeta, P., 2005. Methods of Teaching Biological Science. Hyderabad: Neelkamal Publications Pvt.Ltd.
- 2) Bhatt, B.D., Sharma, S.R., 1996. Methods of Teaching Science. Delhi: Kanishka Publishing House.
- 3) Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R., 1956. Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain. New York: David McKay
- 4) Choudhary, S., 2004. Teaching of Biology. New Delhi: APH Publishing Corporation.
- 5) Cronbach, L. J. & Snow, R. E., 1977. Aptitude and Instructional Methods. New York: Irvington Publishers.
- 6) Das, R.C., 1985. Science Teaching in Schools. New Delhi: Sterling Publishers.
- 7) Dave, R.H., 1970. Psychomotor Levels. In R.J. Armstrong (Ed.), Developing and Writing Educational Objectives (pp. 33-34). Tucson AZ: Educational Innovators Press.
- 8) Deepak Dayal, Richa Bhatt and Biswajit Ray, 2007. Modern Methods of Teaching Biology. New Delhi: APH Publishing Corporation.
- 9) Harrow, A.J., 1972. A Taxonomy of the Psychomotor Domain: A Guide for Developing Behavioral Objectives. New York: David McKay.
- 10) Joyce, B. & Weil, M., 2000. Models of Teaching (6th ed.), Boston: Allyn and Bacon.
- 11) Krishnamacharyulu, V., 2011. Science Education. Hyderabad: Neelkamal Publications pvt.Ltd.,
- 12) Lakshmi Gadde, Bhuvaneshwara, 2003. Methods of Teaching Life Sciences. New Delhi: Discovery Publishers.
- 13) Malhotra, V., 2007. Encyclopaedia of Modern Methods of Teaching Science. New Delhi: Crescent Publishing Corporation.
- 14) Mujibul Hasan Siddiqui, 2007. Teaching of Science. New Delhi: APH Publishing Corporation.
- 15) Narendera Vaidya, 1999. Science Teaching for the 21<sup>st</sup> century. New Delhi: Deep&Deep Publication.
- 16) NCERT, 1996. Science for Classes IX and X, New Delhi: NCERT Publications.
- 17) NCERT, 2006. National Curriculum Framework for School Education 2005. New Delhi: NCERT Publications.
- 18) Passi, B.K., (Ed.) 1976. Becoming Better Teacher: A Micro Teaching Approach. Ahmadabad: SahityaMudranalaya Publishers.
- 19) Rajammal, K., 2009. Methods of Teaching Biological Science. Chennai: Santha Publication,
- 20) Rajput, J.S. (ed.) 2002. Experiences in School Education. New Delhi: NCERT Publications.
- 21) Schmeck, R.R., 1998. Learning Strategies and Learning Styles. New York: Plenum Press.

- 22) Sharma, R.C., 2002. Modern Science Teaching. New Delhi: Dhanpat Rai Publishing Company(P) Ltd.
- 23) Sood, J. K., 1985. Teaching Life Sciences. Delhi: Kohli Publications.
- 24) Taylor D.J. and others, 2004. Biological Science. London: Cambridge university press.
- 25) Trowbridge, L.W. & Bybee, R.W., 1996. Teaching Secondary School Science.(6th ed.). Englewood Cliffs. NJ: PrenticeHall Inc.

### **PC II-6: PEDAGOGY OF SOCIAL SCIENCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in social studies of various stages.
- understands the aims, objectives and values of teaching social studies.
- understands the curricular, approaches, curriculum change and appropriate methods of teaching social studies.
- understands the innovative social studies teaching learning strategies in social studies.
- applies the knowledge of social studies in classroom situations.
- develops interest in knowing the current trends in socio – economic and political spheres.

#### **II. COURSE OUTLINE**

##### **Unit-I : Content**

Subject matter specified in the syllabus of social science for VI to X Std prescribed by the Tamilnadu Government from time to time.

##### **Unit-II : Nature and Scope**

Meaning – Nature of social studies – Scope – Difference between social science and social studies – Present perceptions of social studies – Evolution of social studies – Social studies in relation to history – Geography – Civics and economics.

##### **Unit-III : Aims, Objectives and Values of Teaching Social Studies at Secondary Level**

Meaning – General and specific aims of teaching social studies in the various stages – Objectives – Differences – Values – Cultural – Ethical – Intellectual – Educational – Nationalistic and inter – Nationalistic values.

##### **Unit-IV : Instructional Objectives**

Instructional objectives and specifications of teaching social studies – Bloom's taxonomy of educational objectives – Meaning and importance – Limitations of bloom's taxonomy.

##### **Unit-V : Curriculum**

Social studies curriculum – Curriculum based on national and state policies – Organizing social studies curriculum at the school level – Correlation – Integration – Concentric – Chronological – Periodical and spiral approach – Detailed study of the

secondary school social syllabus – Curriculum content graded social science – A critical study of the secondary school social science syllabus.

#### **Unit–VI : Scientific Methods – Activity and Playway Devices**

Importance of activities in social studies – Types of activities – Research – Construction and processes – Creative playway devices – Mock parliament – Mock election.

#### **Unit–VII : Scientific Approach**

Important features of social science – Continuity – Variety – Unity – Teaching of cultural heritage of India.

#### **Unit–VIII : Methods of Teaching**

Traditional – Lecture – Dramatization – Story telling – Text book – Unit method – Assignment method – Source method – Laboratory – Supervised study – Socialized recitation.

#### **Unit–IX : Methods of Teaching**

Modern methods – Problem solving – Project method – Individualized instruction – Programmed learning – Computer assisted instruction (CAI) – Internet and its application – Meaning – Working of internet e – learning – World wide web – Teleconferencing – Satellite – EDUSAT.

#### **Unit–X : Micro Teaching and Teaching Skills.**

Definition of micro – teaching – Micro cycle – Positive aspects of micro – Teaching – skill development – Set induction – Motivation – Introducing a lesson – Explaining – Questioning – Use of blackboard – Reinforcement – Stimulus variation and closure.

### **III. PRACTICAL WORK**

- 1) A creative write up of Pandya kings and their contribution to the nation.
- 2) Make a report on the important current events after 2000.
- 3) Collect the pictures of important national leaders after independence and arrange it chronologically.
- 4) Prepare a report about the different monsoons of India and its results.
- 5) Critically analyse the important teaching methods and give a report about the merits and demerits of the methods.

### **IV. REFERENCE BOOKS**

- 1) Aggarwal, J.C. Teaching of Political Science, Vikas Publishing House Pvt., Ltd., 5, Ansari Road., New Delhi, 1987.
- 2) Sharama, S.P., T.P.Lamba, C.R.Saxeno and V.Murthy, Teaching of Civics, NaiSarak, PublishingHouse Pvt., Ltd., Delhi, 1988.
- 3) Kochhar, S.K., The Teaching of Social Studies, Sterling Publishers Pvt., Limited, New Delhi, 2005.
- 4) Dash, B.N., & Rahakrishna Murthy, Methods of Teaching Social Studies, Neelkamal Publications Pvt. Ltd., New Delhi, 2012.

**PC II-7: PEDAGOGY OF COMPUTER SCIENCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The Student Teachers

- acquires knowledge of the aims and objectives of computer science
- understands the nature and scope of computer science, the principles of curriculum construction and organization of subject matter, the technological method of teaching computer science
- applies knowledge in the technological methods of teaching
- develops the skills in the approaches of learning computer science teaching of computer science and to develop the skills in them through classroom teaching
- develops interest in planning their lessons in different approaches of learning computer science
- develops a positive attitude towards various teaching skills and the importance of teaching skills

**II. COURSE OUTLINE****Unit-I**

Computer science Subject matter Specified in Standard VI to IX of Computer science Syllabus prescribed by Tamilnadu Government from time to time respectively.

**Unit-II : Nature and Scope**

Nature of Computer science – History of Computer science – Contribution of Indian in the field of Computer science, Scope of Computer science.

**Unit-III : Aims and Values of Teaching Computer Science**

Important Aims of Teaching Computer science at Secondary Level – Values of Computer science – Intellectual, Practical, Disciplinary, Moral, Cultural, Social and Aesthetic.

**Unit-IV : Objectives of Teaching Computer Science**

A. General And Specific Objectives of Teaching Computer science.

B. Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor Domains).

C. Objectives of Teaching Computer science at Secondary Level.

**Unit-V : Curriculum**

Principles of Selection of Content Materials for Computer science Curriculum in Schools, Arrangement of curriculum – Revision of the Curriculum – Problems – Different types of Problems – Recommendations of commissions – Evaluation of syllabus.

**Unit-VI : Problem – Solving Method And Mathematical Attitude**

Problem – solving method – characteristics of a good problem in Computer science – steps – Merits – De Merits.

**Unit-VII : Approaches of Learning Computer Science**

Cooperative Learning – Contextual Learning – Mastery Learning – Constructivism – Self Access Learning – Active Learning Tasks – Investigatory Approach, Concept Mapping, Collaborating Learning And Experiential Learning.

**Unit–VIII : Teaching Methods**

Lecture Method, Lecture cum Demonstration Method, Problem Solving Method, Laboratory, Project Method Heuristic Method, Inductive and Deductive Methods Analytic and Synthetic Method, Project Method, ALM, MLM Method.

**Unit–IX : Technological Method of Teaching – Individualisation Of Education**

Individualised Instruction – Individualisation of Education – Individualised Learning Techniques – Programmed Learning – Principles – Linear Programme – Branching Programme – Computer Assisted Instruction. System Approach in Education – Characteristics – Personalised System of Instruction –

**Unit–IX : Developing Teaching Skills**

Microteaching And Its Scope – Microteaching Cycle – Skill of Introduction, Skill of Explaining, Skill of Stimulus Variation, Skill of Reinforcement, Skill of Questioning, Skill of Using Blackboard, Skill of Demonstration, Skill of Achieving Closure, Skill of Probing Questions.

**III. PRACTICAL WORK**

- 1) Preparation of scrap book on the development of Computer science.
- 2) Preparation of essays on the contribution of Indians
- 3) Evaluating syllabus of any one of the standard at secondary level and preparing report.
- 4) Presentation of Computer Assisted Instruction on any topic.
- 5) Preparation of Linear Programme & Branching Programme frames on the topics in Computer science.

**IV. REFERENCE BOOKS**

- 1) Rao, P.V.S., Computer Programming, TMH, Delhi.
- 2) Roger Humt Hon Shelley, Computers and Common Sense, Prentic Hall (India) Delhi.
- 3) Shied, Introduction to Computer Science, SCHAVM.
- 4) Stanely Pogrow, Education in the Compute Age, Sage Publication, Delhi, 1993.
- 5) Steeven M. Rass, Basic Programmking for Education, Pentic Hall, New York, 1990.

**PC II-8: PEDAGOGY OF ECONOMICS – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquire knowledge of the innovations, tend and approaches of teaching economics
- Understands the concepts, terms and procedures in the innovations, tends and approaches of teaches of teaching economics at higher secondary level.
- Applies the knowledge of the innovations, trends and approaches in actual class room teaching situations.
- Develops skill in various activities pertaining to teaching and learning at economics



- Develops interest in knowing recent developments in the economics curriculum at higher secondary level.
- Develops positive attitude towards concepts, terms and procedures of teaching economics.
- Appreciates the values of teaching economics at the higher secondary stage.

### **COURSE OUTLINE**

#### **Unit-I : Introduction to Economics Education**

Introduction – Definition – Meaning – Types – Historical Perspective – Characteristics – Importance of Economics – Present Status of Economics.

#### **Unit-II : Correlation in Economics Education**

Correlation in Economics – Meaning – Correlation of Economics with – Geography, Civics, History, Politics, Mathematics, Statistics and Commerce.

#### **Unit-III : Instructional Materials**

Introduction – types of Instructional Materials/Aids – Audio visual aids – Merits and Demerits – Diagrams – Aims of Using diagrams – Graphs – Significance of Graphs – Difference between Diagrams and Graphs – Black board, uses – Over Head Projector – Tables and Its significance.

#### **Unit-IV : Instruction for Teaching Economics**

Introduction – individualized instruction (II) – computer assisted instruction (CAI) – programmed instruction (PI).

#### **Unit-V : Curriculum Construction**

Curriculum organization – Meaning – Important – Blue print – Higher Secondary and CBSE syllabus – Suggestions for important of Curriculum.

#### **Unit-VI : Psychological Basis of Economics Teaching**

Psychological basis – introducing different topics – Motivating students – for different lesson in Economics – Development of different motivating skills.

#### **Unit-VII : Data Resources**

Data Resources – Meaning – Data collection – Primary and Secondary data resources and Economics – Classification of data.

#### **Unit-VIII : Economics and Mother Tongue**

Economics in Mother tongue – Need and Important – Prospects and Problems of teaching through mother tongue – Practical suggestion teaching Economics through mother tongue in electronic media.

#### **Unit-IX : Education Technology in Economics**

Education Technology – In Education – Programmed Instruction – Types – Advantages and Disadvantages.

Introduction – Objective – Importance of teaching skills – Types of teaching skills – Class based teaching skill – Field Teaching.

#### **Unit-X : ICT in Economics**

Internet and its applications – Meaning – Working of Internet – e learning – Power point presentations – World Wide web – teleconferencing – Satellite – EDUSAT.

### **III. PRACTICAL WORK**

- 1) List down the characteristics of the subject matter Economics.
- 2) Give examples for the instructional materials required to teach Economics.

- 3) Prepare a programmed instruction for teaching any one lesson in Economics.
- 4) Arrange the steps to collect the population census in an area.
- 5) Classify the sources of economic data required to study economic development.

#### **IV. REFERENCES**

- 1) Dr. M. Harikrishnan, 2006. “*Methods of Teaching Economics*”. Thirmavalavan Publications – Chidambaram.
- 2) Dr. Radha, 2014. “*Value Education*”, Prasanna Publishers and Distributors – Chennai.
- 3) Seema Sharma, 2004. “*Modern Teaching of Economics*”, Anmol Publications Pvt. Ltd – NewDelhi.
- 4) Keith Lumsden, 1967. “*New Development in the Teaching of Economics*”, Prentice Hall the Engle Wood, New Jercey.
- 5) Knopf and Keynon, 1960. “*The Teaching of Elementary Economics*”, James and Status Holt Rinehart and Wiston, New York.
- 6) Amita Yadav, The Teaching of Economics.
- 7) Vakil, Teaching of Economics.
- 8) Journal of Economics Education.
- 9) Vendanayagam, Hand Book for College teachers.

#### **PC II-9: PEDAGOGY OF COMMERCE – [PART-1]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires knowledge of the terms and concepts regarding the various methods and techniques of teaching.
- understands the different types of curriculum, methods of teaching and technology of teaching.
- applies the knowledge in analyzing, selecting and adopting the suitable methods, techniques and for the purpose of teaching.
- develops skills in preparing curriculum, and using the suitable techniques in test construction.
- develops interest in knowing the recent development in the teaching methodology, and technological developments, and
- develops a desirable positive attitude towards the teaching of commerce.

#### **II. COURSE OUTLINE**

##### **Unit-I : Introduction to Commerce Education**

Introduction of commerce education – historical perspective – commerce education in olden days – pre independent period – independent India – presents status of teaching Commerce and Accountancy.

**Unit-II : Correlation in Commerce Education**

Integration of Commerce with other school subject Politics, Geography, Civics, Mathematics, Sciences – consumer education – electronic accounting – VAT management education.

**Unit-III : Instructional Materials in Commerce**

Audio – visual aids – classification, importance – use of graphic materials – Pictures ,Diagrams, Charts – Clipping from the news papers, original documents, office and commercial forms – Selection of appropriate aids for effective teaching of commerce.

**Unit-IV : Self Instruction Modules**

Individualized self instructional modules – programmed instruction – personalized system of instruction – computer assisted instruction – procedure and steps.

**Unit-V : Curriculum Construction**

Commerce and accountancy curriculum principles to be borne in mind of curriculum construction – organization of subject matters – principles, types – concentric topical, psychological patterns.

**Unit-VI : Psychological Basis of Commerce Teaching**

Ways of introducing different topics – developing interest and attitude towards commerce education – motivating students for a commerce lesson – skill of introducing different topics in commerce and accountancy.

**Unit-VII : Data – Resources**

Data collection and commerce – primary and secondary data resources and commerce – role of transport and communication commerce and trade – migration of people – inter dependence and interaction effects.

**Unit-VIII : Commerce and Mother Tongue**

Commerce and accountancy teaching through mother tongue – need and importance – prospects and problems of teaching through mother tongue – practical suggestion teaching commerce and accountancy through mother tongue in electronic media.

**Unit-IX : Technology in Commerce**

Educational technology in learning commerce – Use of latest technology on commercial activities – commercial and educational broad casting – interactive video, tele lecturing – commerce– software development in other countries available in India

**Unit-IX : ICT in Commerce**

Internet and its application – meaning – working of internet – e – learning – World Wide Web – Tele conferencing – satellite – EDUSAT – educating commerce students in computer application – Training commerce students in ICT application.

**III. PRACTICAL WORK**

- 1) Conducting commercial survey
- 2) Visit to auditors office.
- 3) Visit to consumer club
- 4) Analyze – educational telecast and broadcasting
- 5) Prepare a budget analysis for a given period

#### IV. REFERENCE BOOKS

- 1) Kochhar, S.K. Methods and Techniques of Teaching, Sterling Publishers Pvt. Ltd., New Delhi.
- 2) Passi, B.K., Becoming Better Teacher & Micro Teaching Approaches, Sahityamudra Solays, Ahanadabad, 1976.
- 3) Sampthet.al., Introduction to Education Technology, Sterling Publishers, New Delhi, 1990.
- 4) Musseeman, Vernon A. and et.al., Method of Teacher Accountancy, McGraw Hill Inc. USA, 1979.
- 5) Sharma, R.A., Technology of Teaching, International Publishing House, Meerut, India, 1988.
- 6) Ornistein, Allen C., and et al. Curriculum Foundation, Principles and Issues Prentice Hall, Englewood Cliffs New Jersey, USA, 1988.
- 7) Jangira and et al. Core Learning Skills, The Micro Teaching Approach NCERT, New Delhi, 1982.
- 8) Khan, M.S., Commerce Education, Sterling Publication Ltd. 1992.

#### TEA-1: STRENGTHENING LANGUAGE PROFICIENCY

Total Marks: 50

Credits: 2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

#### I. OBJECTIVES

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the pedagogy of English
- understands the concepts, terms and procedure in the innovations, trends, and approaches of teaching English
- applies the knowledge in actual classroom situations
- develops interest in various activities pertaining to teaching and learning of English
- develops interest in knowing recent developments in the innovations, trends, and approaches of teaching English
- develops positive attitude towards teaching and learning of English
- appreciates the contribution of English language to the process of teaching and learning

#### II. COURSE OUTLINE

##### Unit-I : Creative Aspects of Language Learning

Creative behaviour – linguistic creativity – creative non – verbal behaviour – aspects of creative learning – creative behaviour of the teacher.

##### Unit-II : Phenomenon of Errors in Language Learning

Nature of errors – common errors in English usage – causes for errors – types of errors – oral – written – lexical – measures for correcting errors – organizing remedial programmes.

**Unit-III : Reference And Study Skills**

SQ3R method of reading – Study skills – Note making – Note – making – summarizing – paraphrasing – Reference Skills – Library – dictionary – thesaurus – encyclopaedia – bibliography – reviewing – – translation.

**Unit-IV : Learning Difficulties**

Concept – meaning – types of learning difficulties – characteristics of children with learning difficulties – factors related to learning difficulties in English.

**Unit-V : Communication Skills**

Need and importance – elements – process – encoding – decoding – communication cycle – barriers for effective communication – types of communication – strategies for improving communication skills.

**III. REFERENCES**

- 1) Harinath, Kusuma, 2012. Learning Disabilities in English. New Delhi: Discovery Publishing House.
- 2) Joseph, C. Mukalel, 2011. Psychology of Language Learning. New Delhi: Discovery Publishing House.
- 3) Kishnaswamy, N., 2005. Teaching of English Grammar. Chennai: T.R. Publications.
- 4) Swan, Michael, 2002. Practical English Usage. Oxford: OUP.
- 5) Vallabhi, J.E., 2012. Teaching of English-II: Principles and Practices. Hyderabad: Neekamal.
- 6) Venkateswaran, S., 2014. Principles of Teaching English. New Delhi: Vikas Publishing House Pvt. Ltd.

**TEA-2: HEALTH AND PHYSICAL EDUCATION [PART-1]**

Total Marks: 25

Credits: 1

Internal Assessment: 25

Contact Hours: 1 Hours per Week

**I. OBJECTIVES**

The student – teacher

- know the concept & holistic health its various dimensions and determinants
- understand the importance health and sports for development of holistic – health.
- develops positive attitude towards health and healthy habits.
- develops skill of maintaining health status, identify health problems and taking remedial measures.
- encourage the right habits of exercise, games, sports, sleep, rest and relaxation.
- sensitize physical fitness, correct postural habits and its development.

**II. COURSE OUTLINE****Unit-I : Determinants of Health Problems and Diseases**

Concept of health, importance, dimensions and determinants of health; Health needs of children and adolescents, including differently – abled children

Understanding of the body system – skeleton, muscular, respiratory, circulatory and digestive in relation to health fitness, bones, muscles

and joints, their functions, common injuries of bones, common health problems and diseases – its causes, prevention and cure, immunisation and first aid.

### **Unit-II : Practices Related to Food Hygiene**

Food and nutrition, food habits, timing of food, nutrients and their functions, diversity of Indian food, seasonal foods and festivals, economics of food, preservation of food value during cooking, indigenous and modern ways to preserve food, shift in food practices and its globalisation, practices related to food hygiene, malnutrition, including obesity, food and waterborne and deficiency diseases and prevention.

### **Unit-III : Physical Fitness, Games and Sports**

Physical fitness, strength, endurance and flexibility, its components, sports skills, indigenous and self – defence activities Games and sports – athletics (general physical fitness exercises), games (lead – up games, relays and major games) rhythmic activities, gymnastics and their impact on health.

### **III. REFERENCES**

- 1) Dhanajoy, S. & Seema, K., 2007. Lesson Planning: Teaching Methods and Class Management in Physical Education, New Delhi, Khal Sahitya Kendra.
- 2) Nash, T.N., 2006. Health and Physical Education, Hyderabad: Nilkamal Publishers.
- 3) Prasad, Y.V., 2006. Method of Teaching Physical Education, New Delhi: Discovery Publishing house.
- 4) Mangal, S.K., 2005. Health and Physical Education, Ludhiana: Tandon Publication Book Market.
- 5) Kanele, B.S. & Kumar, C.P., 1996. Text book on health and physical education, Ludhiana, Kalyana Publishers.
- 6) Reema, K., 1996. Physical Fitness, New Delhi: Khel Sahitya Sports Publication.
- 7) Ramachandran, L.T. & Dharmalingam, 1993. Health Education a New approach New Delhi, Vikas Publishers Ltd.
- 8) Erikson O.B., 1990. Sports Medicine, Health and Medication, Enfield: Guninness Publishing Road.
- 9) Sangral, K., 1977. Methods in Physical Education, Ludhiana, Prakash Brothers.

### **TEA-3: ARTS AND AESTHETICS – [PART-1]**

Total Marks: 25

Credits: 1

Internal Assessment: 25

Contact Hours: 1 Hours per Week

#### **I. OBJECTIVES**

- to acquire demonstrate knowledge of the fundamental or “formal properties” of art: line, positive/negative space, shade/tone, texture, color, etc.
- to explore, clarify and express ideas, feelings and experiences through a range of arts activities
- to provide for aesthetic experiences and to develop aesthetic awareness in the visual arts and in music,

- to develop the child's awareness of, sensitivity to and enjoyment of visual, aural, tactile and spatial qualities in the environment
- to expose students to the element of art, line. To teach students the variations and uses of line.

## II. COURSE OUTLINE

### Unit-I

Meaning and concept of arts and aesthetics and its significance – Developmental benefits of arts in education – Types of Art – strands in art.

### Unit-II

Knowledge of Indian traditions and its relevance in education – integrate art forms in class room activities.

### Unit-III

Different kinds of instruments – string instruments – blowing instruments – drums – patriotic songs – motivating students for stage performance.

## III. REFERENCES

- 1) Louis V Newkirk , Crafts for everyone, Van Nostrand company Canada.
- 2) Elsie BuncgDonal, (Ed), TheBook of Creative Arts, Octopus Books Ltd.,London.
- 3) Sharma, T.R., An introduction to Craft Education in India, Indian publications Ambola.
- 4) Pakthavachalam, A., Tamil VedhaThirattuPart-2, Nallarpettai, 2000.
- 5) Dr.K.A.PakkirisamyBharathi, Isai Karuvoolam, Madhaldhazh, Chennai.
- 6) Elliot W. Eisner, 2004.The Arts and the Creation of Mind by Yale University Press.
- 7) <http://www.art-rageous.net/>
- 8) Activity corner – <http://www.kidspot.co.nz/>
- 9) Middle School Painting & Drawing Activities <http://www.education.com/>

### TEA-4: EXPLORING LIBRARY AND OTHER LEARNING RESOURCES

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

## I. OBJECTIVES

The student teacher

- acquires information about library and different kinds of libraries
- acquires knowledge about the various types of e – resources
- understands the function of the various sections of the library
- develop skills to locate the required information
- develop interests in locating websites used for teaching and learning
- analyses the various types of information/ learning sources

## II. COURSE OUTLINE

### Unit-I : Exploring library

Role of library in promoting education – educational functions and research functions – various sections of library – kinds of libraries – academic – research and public libraries, e libraries – virtual library – digital library.

### Unit-II : Library Procedures

Classification – basis of classification – catalogue – accession No. – call No. – OPAC.

### **Unit–III : Sources of Information**

Types of learning resources – Documentary – primary , Secondary and tertiary Non documentary – e resources – E books – e journals – e magazines.

### **Unit–IV : Services Provided by the Library**

Selective dissemination of Information ( SDI) – Current awareness service – abstracting and indexing – reference service – reprography service – bibliographic services.

### **Unit–V : World Wide Web – Storehouse of Information**

Information resources – personal – institutional – commercial and educational Useful websites for teaching and learning.

## **III. REFERENCES**

- 1) Amjad Ali, 2004. Reference Services and the Digital Sources of Information, ESS ESS Publication, New Delhi.
- 2) Chowdhury, G.G., 2001. Information Sources and Searching on the World Wide Web, Library Association Publishing, London.
- 3) Sharma, C.K., 2006. Library Management (Vol 1 and 2) Atlantic Publishers, New Delhi.
- 4) Sharma, C.K., 2006. A Practice Handbook of Classified Catalogue, Atlantic Publishers, New Delhi.
- 5) Sreepathy Naidu, R., 1989. Academic Librarianship, Gyan Publishing House, New Delhi.

## **TEA–5: YOGA EDUCATION**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

### **I. OBJECTIVES**

The student teacher

- acquires knowledge of the origin, definitions and concepts of Yoga
- understands the aims and objectives and principles of Yoga
- applies the knowledge in practising the streams of Yoga
- develops skills in performing the streams of Yoga
- appreciates the role of yoga in Holistic health care.

### **II. COURSE OUTLINE**

#### **Unit–I**

Origin of Yoga – Vedic Period – Pre-classical – Classical period – Post-classical period – Definitions – Concepts – Aims and objectives of Yoga – Principles of Yoga – Streams of Yoga – Karma Yoga – Bhakthi Yoga – Gnana Yoga – Raja Yoga (Ashtanga Yoga) – Hatha Yoga – Patanjali Yoga Sutra – Five prana – Pranavidhya – Function in Human Body.



**Unit-II**

Introduction of Yoga text – Patanjali Yoga Sutra – Four padhas – Samadhi – Sadhana – Viboothi – Kaivalya – Hatha Yoga Pradipika – Swadmarama – Grandhasamhitha.

**Unit-III**

Yoga and Health – Definition of Health – Concept of Health – Yoga therapy – Yogic concept of Human bodies and its purification methods – Role of Yoga in Holistic Health care.

**PART-II: PRACTICAL 32 Hours****Unit-IV**

Teaching Yogic practices – Practical training – Basic practices – Breathing practices – Sthoola&Sookhshamavyamas (Loosening and stretching practices) – Surya namaskar – Basic asanas – Standing – Sitting – Prone – Supine – Pranayama – Shatkriyas – Mudras – Bandhas – Meditation – Methods and practices – Contra indications.

**III. REFERENCES**

- 1) Yoga, Asana, Pranayama, Mudras, Bandha: Yoga Publications Trust, Munger, Bihar, India.
- 2) Yoga, Asana, Pranayama, Mudras, Bandha: Vivekananda Kendra Yoga Prakashana, Bengaluru.
- 3) Iyengar, B.K.S., The Light on Yoga: Haper Collins Publications India Pvt. Ltd., New Delhi.
- 4) Iyengar, B.K.S., The Light on Pranayama: Haper Collins Publications India Pvt. Ltd., New Delhi.
- 5) Four Chapters of Freedom: SwamySatyanandaSaraswathi, Yoga Publications Trust, Munger, Bihar, India.
- 6) George Feuerstein: The Yoga Tradition, History, Literature, Philosophy and Practices.
- 7) Swami Sivananda: Practice of Yoga, The Divine Life society, Shivananda Nagar, P.O. U.P., India.

**TEA-6: ENHANCING TEACHING SKILLS**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the teaching skills and Micro teaching.
- understands the technique of using different teaching skills.
- applies the knowledge to practice different teaching skills.
- develops skills of using different teaching skills.
- develops interest in using different teaching skills.
- develops a Positive attitude towards teaching Various Teaching Skills.

## II. COURSE OUTLINE

### Unit-I : Meaning and Scope of Teaching Skills

Meaning and Definition – Need and importance – Nature of teaching skills – Features of teaching skills – Characteristics – General classification of teaching skills – Special classification of teaching skills.

### Unit-II : Description and Components of Teaching Skills

Meaning and Description and components of various teaching skills such as: The Skill of Introducing a lesson, the Skill of Explaining, the Skill of Stimulus Variation, the Skill of Reinforcement, the Skill of Questioning – The Skill of Using Blackboard, the Skill of Illustrating with examples – the Skill of Achieving Closure, the Skill of Probing Questions, the Skill of using Audio – Visual aids – the Skill of recognizing Attending Behaviour.

### Unit-III : Techniques for Developing Teaching Skills

Various techniques for developing teaching skills – Micro teaching – Origin of Microteaching – Purpose – Need – Characteristics – Objectives – Steps – Micro teaching cycle – Phases in Microteaching.

### Unit-IV : Planning Micro Lesson

Steps and procedures in preparation of micro lesson – Preparation of Micro lesson plan for various teaching skills.

### Unit-V : Organization of Microteaching

Selection of skills – Collection/preparation of instructional materials – Arrangements of facilities – Role allocation – Training in observation – Scheduling and time tabling – Implementation – Evaluation – Continuous search for improvement.

## III. REFERENCES

- 1) Chris Khiryacou, 1991. Essential teaching skills, Basil Blackwell Limited, UK.
- 2) Romesh Verma, 1998. Modern Trends in Teaching Technology, Anmol Publications, New Delhi.
- 3) A.Ram Babu, Micro Teaching, Volume 1, Neelkamal Publications Pvt. Limited, Hyderabad.
- 4) Jangira, N.K., 1982. Core Teaching Skills – The Microteaching Approach. New Delhi: NCERT Publication.

### SESA-1: ASSESSMENT FOR LEARNING – (PART-I)

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

## I. OBJECTIVES

The student – teachers

- acquires knowledge about the assessment and evaluation.
- understands the issues in assessment and evaluation. the key concepts, such as formative and summative assessment, evaluation and measurement, test, examination. different kinds and forms of assessment that aid student learning.

- apply the knowledge to use wide range of assessment tools, select and construct these appropriately.
- develops skill to evolve and adapt realistic, comprehensive and dynamic assessment procedures.

## II. COURSE OUTLINE

### Unit-I : Overview of Assessment and Evaluation

The concept of evaluation – The purpose and place of evaluation in education – Functions of evaluation – Difference between measurement and evaluation.

### Unit-II : What is to be Assessed?

Dimensions and levels of learning – Retention/recall of facts and concepts – application of specific skills – The role of objectives in educational evaluation – Relation between educational objectives, learning experiences and evaluation.

### Unit-III : Assessment of Subject – Based Learning

Subject – based Learning in a constructivist perspective – Observation of learning processes by self, by peers, by teacher.

### Unit-IV : Types of Evaluation

Formative and summative – Criterion referred test and Norm referred test.

### Unit-V : Tools and Techniques of Assessment

Achievement tests – aptitude test – attitude tests – prognostic test – diagnostic test – purpose and use of these tests. Testing procedure – oral, Written, performance, etc. – Observation and rating techniques – systematic observation – rating scales – check lists – anecdotal records – cumulative record – Projective Techniques – Ink Blot – T.A.T. – Sociometric techniques – self report techniques – interview and inventories.

## III. REFERENCE BOOKS

- 1) Bloom, Benjamin, S. et.al. (Ed.),1956. *Taxonomy of Educational Objectives – Handbook I Cognitive Domain*.
- 2) Ebel and L.Robert. 1965. *Measuring Educational Achievement*, Prentice Hall International, Inc, USA.
- 3) Gronlund, Norman, E., 1965. *Measurement and Evaluation in Teaching*, New York: The Macmillan Co.
- 4) Krathwohl David, R., et.al. *Taxonomy of Education Objectives – Handbook – II, Affective Domain*, David Mckey, New York.
- 5) *Best John, W.1989. Research in Education. New Delhi: Prentice Hall of India.*
- 6) Sukia, S.P.,1963. *Elements of Educational Research*, Bombay: Allied Publishers.

### SESA-2: EDUCATION FOR PEACE

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

## I. OBJECTIVES

The student teachers

- acquire knowledge of the concept and principles of Education for peace.
- develop understanding of the concepts and its implications in Education for peace.

- apply the knowledge of Education for peace in the analysis of present day educational system.
- develop interest in reading Education for peace issues.

### **COURSE OUTLINE**

#### **Unit-I : Peace as a Dynamic Social Reality**

Peace Education – Meaning, Nature and concepts of Peace education – Aims and objectives of Peace education Highlights of various Philosophies of peace Gandhi, Krishnamurthy, Aurobindo, Vivekananda, Rabindranath Tagore GijubhaBadheka, The Dalai Lama, initiatives at National and International levels.

#### **Unit-II : Non-violence for Peace and Conflict Resolution**

Violence – Working definition relationship between peace and violence exposure to violence through media consequences – Factors that influence non – violence – Peace and conflict – Bases of conflict – Positive and Negative aspects of conflict – Types of conflict – Peace Education and Conflict Management Conflict Resolution.

#### **Unit-III : Global issues and Peace Movements**

Human Rights – Preservation of Ecology – Population Control – Economic Exploitation – Deprivation – Poverty – Equitable Economic World order – Gandhiji's contribution to peace studies – Non – aligned movement – Campaign for Nuclear Disarmament – Role of world organization in promoting peace.

#### **Unit-IV : Integrating Peace Education in the Present Curriculum**

- Six Major Media of Integration
  - i) Subject content ii) Teaching methods iii) Co-curricular activities
  - iv) Staff development v) Classroom management vi) School management
- Practical steps to build peace culture in schools.

#### **Unit-V : Education for a Culture of Peace**

Critical reflection on the curricular processes.

- i) Healthy discipline practices in and outside classroom.
- ii) Symbols, activities and other structures in the school that reflect a multi – cultural ambiance
- iii) Experiences of different cultural identities, issues, challenges conflicts in the neighbourhood.

Critical Pedagogy of peace education – Ecological Thinking and respects of life (age 8 – 12) – Tolerance and respects for Human Rights (age between 11 – 16) – Social justice and civic responsibility (age 14 +) – Leadership and Global citizenship (age 16 +) – Knowledge, Attitude and skills to be learnt in each of them.

### **III. REFERENCES**

- 1) Prof.S.P.Ruhela, Prof. RajkumarNayak, Value Education and Human Right Education, Neel Kamal Publications, 2011, New Delhi.
- 2) Dr.Kirubacharles, Peace and Value Education, Neel Kamal Publications, 2012, New Delhi.
- 3) R.P.Veerabhadrapa, Teaching of Peace and Conflict Resolution, Dotus press, 2007, New Delhi.
- 4) BabuMuthuja, R.Usharani, R.K.Arun, Peace and Value Education, Centum Press, 2009, New Delhi.

**SESA-3: ISSUES OF CONSERVATION AND ENVIRONMENTAL REGENERATION**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The Student Teacher

- acquires the knowledge on natural resources and the problems associated.
- knows the different types of resources.
- understands the environmental hazards and pollutions.
- understands the major environmental problems in India.
- knows the importance of environmental education in the school curriculum.

**II. COURSE OUTLINE****Unit-I : Natural Resources and Associated Problems**

Forest resources: Use and over – exploitation, deforestation. Timber extraction, mining, dams and their effects on forests and tribal people. – Water resources: Use and over – utilization of surface and ground water, floods, droughts, water disputes. – Mineral resources: Use and exploitation – environmental efforts and extracting and using mineral resources. – Food resources: world food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer, pesticide problems, water logging, salinity, – Energy resources: Growing energy needs, renewable and non – renewable energy sources, use of alternate energy sources. – Land resources: Land as a resources, land degradation, man induced landslides, soil erosion, conversion of wet land into dry land – Equitable use of resources for sustainable lifestyles.

**Unit-II : Environmental Hazards and Pollution**

Pollution: Meaning – Definition, Causes, effects and control measures of air, water, soil, marine, noise, thermal pollution and nuclear hazards – Solid waste management – causes, effects and control measures – Disaster management: Floods, earthquake – cyclone and tsunami – causes, effects and control measures.

**Unit-III : Environmental Uses and Policies**

Major environmental problems in India – Environmental protection and policies in India – Threats to bio – diversity: habitat loss, poaching of wildlife, endangered and endemic species of India – measures taken in India – Role of Green Tribunals in environment issues – state solar policy – Rain water harvesting.

**Unit-IV : Conversation of Environment**

Environmental movements: Environmental movement in India: Silent valley movement, chipko movement, Narmada BachaoAndolon. Sustainable development: concept, meaning and strategies for sustainable development in India. – International Effects: The stockholom conferences(1972), Nairobi conferences(1982) – Brundhand commission(1983), The Rio Summit(1992) – Kyoto conferences(2012).

**Unit-V : Environmental Education in the School Curriculum**

Environmental education at primary, secondary and higher education level – Programmes field trips – workshops – exhibitions, video shows, nature clubs, nature walk and celebration of environmental day, saving energy, hygiene and sanitation programmes, eco friendly behaviour, organic farming – clean and green

campus programmes – Role of teachers in conservation of environment – Swachch Bharat.

### III. REFERENCES

- 1) Agarwal, S.P. and Agarwal, J.C., 1996. Environmental Protection, New Delhi.
- 2) Sharma, R.A., 2008. Environmental Education Meerut: Lall Books Depot.
- 3) Sharma, V.S. 2005. Environmental Education, New Delhi, Anmol Publication.
- 4) Singh, Y.K., 2009. Teaching of Environmental Science, New Delhi, APH Publishing Corporation.
- 5) Joy, P. and Neal, P., 1994. The Handbook of Environmental Education, London, New Fetter Lane.

## SECOND YEAR

### CC 4: CURRICULUM AND SCHOOL

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

### I. OBJECTIVES

The student teacher

- acquires the knowledge of the terms and concepts used in curriculum development.
- understands the principles, designs, development and evaluation of curriculum.
- applies the knowledge in analyzing the different types of curriculum and their evaluation.
- develops skill in preparing curriculum design.
- develops interest in studying books journals and articles on curriculum development.
- develops a desirable positive attitude towards curriculum development.
- appreciates the contribution of curriculum development in the classroom situation.
- illustrates and explains the role of curriculum in effective teaching and learning.
- uses different methods and strategies to evaluate a curriculum depending on the stage of development of the curriculum.

### II. COURSE OUTLINE

#### Unit-I : Nature and Scope of Curriculum

Curriculum – Meaning – Definition – Scope – Curriculum as a plan, as experience, a subject matter or content – Nature , Scope and Types of Curriculum – Understanding curriculum reforms and its impact on school structure, system, and school culture.

#### Unit-II : Foundations of Curriculum

Foundations of curriculum development – Philosophical, Sociological and Psychological. Creating a supportive school environment for curriculum change, Determinants of curriculum.

**Unit–III : Aims and Objectives**

Aims and Objectives of Education – Taxonomical objectives – Cognitive, Affective and Psychomotor Domains, Strategies for Effective curriculum – Improving the quality of teaching and learning – Localization of the curriculum – Learning life skills – Co-curricular activities – Special education needs (SEN). The physical school environment.

**Unit–IV : Curriculum Process**

Curriculum Process – Formulation of objectives, selection of learning experience and content organisation. Designing Integrated and Interdisciplinary learning experience, Integration of learning experience relating to work experience and sensitivity to gender disparity.

**Unit–V : Curriculum Design**

Curriculum Design – Dimensions – Integration, Sequence, Articulation, Balance and Continuity – Sources for Curriculum Design, Activity Learning Method (ALM), Minimum level of Learning (MLL) Method.

**Unit–VI : Types of Curriculum Designs**

Representative Curriculum Design – Subject centered design, Learners centered design, Experience centered designs, Life centered design.

**Unit–VII : Curriculum Transaction**

Curriculum Transaction – Concept of teaching and learning, Relationships – Constituents – effective teaching and learning – Role of ICT and its importance – Various modes of ICT (CAL,CAI) for transaction, their strength and limitations.

**Unit–VIII : Curriculum Evaluation**

Curriculum Evaluation – Approaches to evaluation – evaluation Methods – Tyler’s Evaluation Model – Stake’s congruence – Contingency Model, Stuffle Beams (CIPP) Model – Hilda Taba Model.

**Unit–IX : Agencies of Curriculum**

Agencies of Curriculum Development – Schools, Teachers, Principals, Educationists, NCERT, SCERT, NCTE, UNESCO, DTERT.

**Unit–IX : Future Directions and Approaches**

Education Policy Issues – Guiding policy principles – Understanding the curriculum – Educational Assumptions – Equal opportunities for Boys and Girls – HIV/AIDS and the curriculum – Specific Goals of the education System – Desired learners profile – Future directions for curriculum development, Approaches to forecasting new curricular areas.

**III PRACTICAL WORK**

- 1) Describe various stages of curriculum development. Discuss how these stages are interlinked?
- 2) Discuss different models of curriculum planning. Which model you consider the best and why? Justify your answer with the help of suitable examples?
- 3) As school management, you will be challenged to manage the shift in curriculum from Foundation phase to Intermediate Phase to Senior Phase. What are the important considerations for learners, teachers, and curriculum planning? How will you manage change in each of the above?

- 4) Monitoring is an important management function. It serves a purpose at all three management levels, and has a role in ensuring quality teaching and learning practice. Discuss in your groups monitoring processes and practices, and how it can support your management function?
- 5) Describe in brief different models of curriculum planning. Which model you consider the best and why? Give suitable example in justification of your answer?

#### **IV. REFERENCES**

- 1) Aggarwal, J.C. 1990. Curriculum Reforms in India, Delhi: Doaba House Harper & Row.
- 2) IGNOU, 1992. Curriculum Development for Distance Education, (ES – 316), Blocks 1 and 2, New Delhi.
- 3) Dewey, J., 1966. The Child & the Curriculum – The School & Society, Phoenix, USA.
- 4) Lee, J., 1964. Evaluation for Course Improvement in New Curricula, New York: Jersey, U.K.
- 5) Kelly, A.V., 1989. The Curriculum: Theory and Practice, London; Paul Chapman Publishing.
- 6) Mamidi, M.R. and Ravishankar, S., 1984. Curriculum Development and Educational Technology, New Delhi: Sterling Publishers.
- 7) Ornstein, C. & Hunkins P., 1988. Curriculum, Foundations, Principles and Issues, New Sharpes, D.K., 1988. Curriculum Traditions and Practices. London: Routledge.
- 8) Stenhouse, L., 1975. An Introduction to Curriculum Research and Development. London: Heinemann.
- 9) Wheeler, D.K., 1967. Curriculum Process. University of London Press.
- 10) NCERT, 1988. National Curriculum for Elementary and Secondary Education – A Framework, New Delhi.
- 11) Lawton, D., et.al., 1978. Theory and Practice of Curriculum Studies. Routledge and Kegan Paul London.
- 12) Goel, B.S. and Sharma, J.D., 1984. A Study of Evolution of the Text Book.
- 13) NCERT, 1975. The Curriculum for the Ten – year School – A Framework.

#### **CC5: VISION OF EDUCATION IN INDIA – CONCERNS AND ISSUES**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES: The student teacher**

- understand the importance of universalization of school education and the Constitutional Provisions for realizing it.
- examines the issues and concerns related to universalization of school education.
- analyses the strategies used for realization of UEE and the outcomes of their implementation.



- realizes the need and importance of equity and equality in education and the constitutional provisions for it.
- identifies the various courses for inequality in schooling.
- realizes the importance to Right to Education and the provisions made for realizing it.
- understands the importance of indicators, standards and strategies for enhancement of quality in school education.
- understands the need and importance of education for peace and human rights and the national and international efforts towards it.
- examines the issues and concerns related to global and local environmental crisis.
- explores the strategies for sensitizing the learners towards environmental conservation.
- understands the Action/measures taken for Environmental Conservation and its sustainability at the international level.
- explores the School Curriculum for integrating environmental concerns.
- understands the strategies for development of values and life skills and the role of the teacher in developing values and life skills.

## **II. COURSE OUTLINE**

### **Unit-I : Universalization of School Education**

Constitutional Provisions of universalization of school education Rights to Education and Universal access, enrolment, retention, participation and achievement.

Issues in UEE: Equality and equity; meaning, need and importance, constitutional provision for ensuring equity.

### **Unit-II : Inequity and Educational Provisions**

Nature and forms of inequity with reference to Gender, Socio-economic status, socio-cultural status, Minority(Linguistic & Religions), locality(Rural – Urban – Tribal) public – private schools, children with special needs(CWSN), Inclusive Education for addressing inequality – Causes of Inequity and Educational Provisions – SSA, RTE and RMSA: provision for addressing inequality.

### **Unit-III : Quality in Education**

Concept of quality in Education; Indicators of quality Education – Academic and Organisaitonal, student outcomes – Quality improvement in Education – setting up standards for performance, supporting inputs to improve achievement, adopting flexible strategies for the acquisition and use of inputs, and monitoring performance.

### **Unit-IV : Organisaitonal Strategies of Quality in Education**

Organisaitonal strategies for enhancement of quality in school education, Resource Support institutions for quality enhancement: NCERT, NUEPA, NCTE, NIOS, SCERT, CTE, IASE, DIET/DRC – structure, functions and ongoing programmes – Role of teacher for enhancing quality in education.

**Unit-V : Human Rights**

Human Rights: Concept; Constitutional and Institutional safeguards – Domains of Human Rights: RTI, Poverty, Child Labor, Child Rights, Rights of women empowerment; Role of Education in safeguarding Human Rights.

**Unit-VI : Peace Education**

Peace Education: concept and relevance in National and International (UN & UNESCO) contexts; Danger to Social Security ; terrorism, war, natural calamities (Disaster management), their impact on quality of life, Threat to peace in regional, national and global contexts and their impact on quality of life – Role of teacher education in promoting peace: implication for pedagogy.

**Unit-VII : Education for Conservation of Environment**

Protection and Conservation of environment – need, issues and importance in global and local contexts. Policies for protection and conserving environment – Measures for environmental conservation : Management of Natural resources, Bio-diversity.

**Unit-VIII : Environmental Education Curriculum**

Environmental Education: Integration of environmental concerns in school curriculum – Strategies for sensitizing learners towards protection of environment and its conservation, Role of the teacher in promoting conservation.

**Unit-IX : Value Education**

Values: concept, classification, Indian philosophical thought and values(Purushartha and PanchaKosha), Reverence for life, unity of all life and being); tolerance: values in modern Indian context – preamble of the Indian Constitution, Rights and Duties of a citizen, Personal, Social, Spiritual and universal values Value Education and Role of the teacher.

**Unit-IX : Life-Skill Education**

Life – skill education – meaning, concept and importance – Ten core life – skills recommended by WHO – Strategies for developing individual life – skills at different levels(elementary and secondary) – Role of the teacher and community for facilitating and promoting learner’s life skill.

**III. PRACTICAL WORK**

- 1) Presentation on the reports and policies on USE (Universalization of school education).
- 2) Conduct of survey of government and private schools to identify various forms of inequality.
- 3) Assessment of quality education in any School as per the organizational/academic indicators.
- 4) Analysis of any one text book with regard to incorporation of values/Human rights education.
- 5) Observation and reporting on violation of child rights in any locality.

**IV. REFERENCES**

- 1) Anand, C.L. et.al., 1993. Teacher and Education in Emerging Indian Society, NCERT, New Delhi.
- 2) GOI, 1986. National Policy on Education.MHRD, New Delhi.

- 3) GOI, 1992. Programme of Action (NPE), MHRD.
- 4) GOI, 1992. Report of Core group on Value Orientation to Education, Planning Commission.
- 5) Glasser, W., 1990. The Quality School : Managing students without Coercion, New York: Perennial Library.
- 6) Kaur, B., 2006. Teaching Peace, Conflict and Pride, New Delhi: Penguin Books.
- 7) Kumar, Arvind, 2003. Environmental Challenges of the 21<sup>st</sup> Century, New Delhi: APH Publishing Corporation.
- 8) Kumar Krishna, 1996. Learning from Conflict, New Delhi: Orient Longman.
- 9) Ministry of Law and Justice, 2009. Right to Education Act 2009, New Delhi, Govt. of India.
- 10) Ministry of Education, Education – 66, Education Commission and National Development, Ministry of Education, Govt. of India, 1966.
- 11) Mohanty, J., 1986. School Education in Emerging Society, Sterling Publishers, New Delhi.
- 12) NCERT, 1986. School Education in India – Present Status and Future Needs, New Delhi.
- 13) NCERT, 1992. Education in Values A Source Book(eds) Seshadri, C. et al., NCERT, New Delhi.
- 14) NCERT, 1996. Human Rights, A Course Book, New Delhi.
- 15) NCTE, 1997. Human Rights and National Values for Teacher Educators. New Delhi.
- 16) NCERT, 2005. National Curriculum Framework 2005, New Delhi.
- 17) UNDP, Human Development Report, New Delhi, Oxford University Press.
- 18) UNESCO, 2004. Education for All: The Quality Imperative EFA Global Monitoring Report, Paris.
- 19) Varghese, N.V., 1995. School Effects on Achievement: A Study of Government and Private Aided Schools in Kerala. In Kuldip Kumar (Ed.) School Effectiveness and learning Achievement at Primary stage: International perspectives, NCERT, New Delhi.
- 20) UNESCO, 2001. Learning the way to peace: A UNICEF (2000); Defining quality in education, New York, Programme Division (Education).
- 21) UNESCO, 2012. Shaping the education of tomorrow: 2012 Report on the UN decade of education for sustainable development, Paris.

### **PC I-1: PEDAGOGY OF TAMIL – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of Dravidan languages and importance of tamil.
- understands the different methods of teaching tamil.

- develops interest in knowing the principles of translation and coining of new words.
- develops positive attitudes towards speaking and writing skills.
- develops interest in construction of test.

## **II. COURSE OUTLINE**

### **Unit-I : Dravidian Languages**

Dravidian Languages – South Dravidian Languages – Importance of Tamil – Teaching through mother tongue – merits – teachings through second language – merits and demerits – Tamil as an instructional language – present position of Tamil in school syllabus.

### **Unit-II : Aims of Teaching Tamil**

Aims of teaching Tamil – uses – Traditional methods of Teaching – Merits and demerits – Teaching methods viewed by Grammatical books and literatures – History of Tamil language Teaching from ancient period to present.

### **Unit-III : Methods of Teaching Tamil**

Different methods of Teaching – Play way method – Dramatization – Project – Assignment – Creative writing – field experience method – Individualized Instruction method – Class room teaching – merits and demerits of the above methods.

### **Unit-IV : Teaching of Essay**

Teaching of Essay – Aims – Method – different types – different training techniques – Historical Essays – Explanatory Essays, Imaginative Essays, story writing – Argument Essay – Conversation Essay – Research Articles – Method of writing – Uses.

### **Unit-V : Developing Skill of Speaking**

Skill of speaking – importance – Aims – uses – problems in pronouncing – Recitation of poems – importance – components in a good speech – literature used for correct pronunciation – different Exercises – different methods for different age groups.

### **Unit-VI : Teaching of Translation**

Teaching of Translation – need and importance – bi – lingualism and multi – lingualism – Google translation – types of translation – Principles – types – problems of Translation.

### **Unit-VII : Teaching of Non Detailed Text**

Teaching of non – detailed text – Aims – methods – uses – vast reading exercise – Learn with self interest, value based education – Importance.

### **Unit-8 Developing Skill of Reading**

Skill of reading – motivation – selected topics – different methods of reading – alphabet method – word method – sentence method – story method – merits and demerits – Extensive and intensive reading – development of reading skill.

### **Unit-IX : Skill of Elocution**

Skill of Elocution – correct pronunciation – without grammatical mistakes – different exercise and drills, for different age groups – Motivational topics – Rhymes – story telling – Elocution – debate – Lecture.

**Unit–X : Evaluation**

Evaluating Tamil teaching – Analyzing the Aims of Education in different levels – Tests constructed by teaches – Standardized tests – Need for the test innovation – Characters of tests – objectivity, reliability, validity, characters of a good test. Diagnosis test and achievement test – mean – median – mode – Cumulative variation, standard deviation, their uses.

**III. PRACTICAL WORK**

- 1) Write advertisement in Classical Tamil.
- 2) Write Invitation in Classical Tamil.
- 3) Arrange a debate in the Class room and prepare a report on it.
- 4) Prepare a album representing importance of Mother tongue.
- 5) Arrange an Elocution on any one topic and prepare a report.

**IV. REFERENCE BOOKS**

- 1) RathnaSabapathiP., 1997. ChemmozhiKalvi, Santha Publishers, Chennai.
- 2) RathnaSabapathiP., 1997. Kalviylthervu, Santha Publishers, Chennai.
- 3) Venugopal E.P., 2008. PainthamilKarpikumuraikal, Saratha pathipaham, Chennai.
- 4) GovindaRajan, M., 1980. Natamilkarpikumnookamummuraiyum, Then mozhipathipagam, Chennai.
- 5) Subbureddiyar, R., 2001. Tamil payitummuraikal, Manivasaharpathipagam, Chidambaram.

**PC I–2: PEDAGOGY OF ENGLISH – [PART–2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contas: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the pedagogy of English
- understands the concepts, terms and procedure in the content and methodology of teaching English
- applies the knowledge in actual classroom situations
- develops interest in various activities pertaining to teaching and learning of English
- develops interest in knowing recent developments in content and methodology of teaching English
- develops positive attitude towards teaching and learning of English
- appreciates the contribution of English language to the process of teaching and learning

**II. COURSE OUTLINE****Unit–I : Lesson Planning**

Advantages – Features of Lesson Planning – unit plan – Lesson Plan format for teaching of Prose, Poetry, Grammar and Composition – model lesson plan.

**Unit-II : Instructional Procedure**

Aims and objectives of teaching prose – Steps involved in teaching of prose – poetry – grammar – methods – inductive – deductive – kinds of grammar – prescriptive – descriptive – formal – functional grammar – composition – types – oral – written – kinds – free – controlled – guided – correction of composition.

**Unit-III : Materials and Media**

Need and importance of audio visual aids – advantages – classification – selection – preparation and use of instructional materials and Media for effective teaching of English – language laboratory.

**Unit-IV : Learning Resources**

Reference material – print media – textbook – Dictionary – Thesaurus – Encyclopedia – web based learning – Internet and its applications – e-learning – m-learning – teleconferencing – EDUSAT.

**Unit-V : Effective Communication**

Need and importance – elements of communication – communication cycle – barriers for effective communication – types of communication – strategies for improving communication skills.

**Unit-VI : Innovative Trends in ELT**

Programmed learning – Individualized Instruction – CAI – CAELL – CALL – concept – meaning – principles – types – advantages and disadvantages – collaborative learning.

**Unit-VII : Testing and Evaluation**

Characteristics of good test – construction and administration of an achievement test in English – weightage – types of test items – test design and blue print – scoring key – Question Bank.

**Unit-VIII : Diagnostic Testing and Remedial Teaching**

Common errors in English usage – causes for errors – types of errors – oral – written – lexical – measures for correcting errors – organizing remedial programmes.

**Unit-IX : Professional Growth of Teachers**

Professional competencies of English teacher – Maxims of teaching – In service and Pre – Service Training to language teachers – quality improvement programmes in ELT.

**Unit-X : Recent Research in Language Education**

Research in ELT – improving professional competency in ELT – role of EFLU – NCERT – RIE and The British Council – recent trends – current issues in ELT.

**III. PRACTICAL WORK**

- 1) Prepare innovative teaching aids for teaching of grammar.
- 2) Write a review of a book that you have recently read.
- 3) Discuss the greatness of Dr. Kalam by forming into groups.
- 4) Narrate of a story with a good social message.
- 5) Conduct a seminar on topics of prescribed curriculum for ELT.

#### IV. REFERENCES

- 1) Anne, V.K., 2001. Methods of Teaching English. Hyderabad: New Era Publications.
- 2) Baruah, T.C., 2006. The English Teachers HandBook. New Delhi: Sterling Publishers.
- 3) Close, R.A., 1999. English as a Foreign Language. London: Longman.
- 4) Dash, B.N., 2007. Teaching of English, New Delhi: Dominant Publishers
- 5) Jack , Richards(2012) Approaches and Methods in Language Teaching. London: Cambridge
- 6) Jindal, D.V., 2008. An Introduction to Linguistics. New Delhi: Prentice Hall.
- 7) Krishna Babu, S.,et.al. 2009. Reading Disabilities. New Delhi: Sonali.
- 8) Kohli, A.L., 2006. Techniques of Teaching English. New Delhi: Dhanapat Rai Publications.
- 9) Kishnaswamy, N., 2005. Teaching of English Grammar. Chennai:T.R.Publications.
- 10) Mowla, Shaikh, 2006. Techniques of Teaching English, Hyderabad:Neelkamal.
- 11) Pahuja, N.P., 2009. Teaching of English. New Delhi: Anmol Publications.
- 12) Swan, Michael, 2002. Practical English Usage. Oxford: OUP.
- 13) Venkateswaran, S., 2011. Principle of Teaching English. New Delhi: Vikas Publishing House.

#### PC I-3: PEDAGOGY OF MATHEMATICS – [PART-2]

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### I. OBJECTIVES

The student teacher

- acquires knowledge of the Planning For Instruction in the teaching Mathematics.
- understands the factors behind Media Selection of teaching Mathematics. The purpose of Review, assignments.
- applies the knowledge in Ict Based Learning & Teaching in actual class room situation.
- develops skill in preparing multimedia lessons to teaching and learning Mathematics.
- develops interest in knowing recent Research in Mathematics Education.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

#### II. COURSE OUTLINE

##### Unit-I : Planning for Instruction

Long term plan, Medium term plan, short term plan – Key questions for lesson planning – Stages of planning – Identifying the need for instruction – Planning for Differentiated Instruction – Ways of differentiation Instruction – Universal design learning – Principles of Universal design learning – Steps for Creating visual media.

**Unit-II : Media Selection**

Factors in Media Selection 1. Physical attributes of media (Visuals, Printed materials, Sound, Motion, Colour, Real objects) 2. Learner characteristics Instructional setting and Categories of learning outcome, events of Instruction, task characteristics 3. Practical factors – Factors affecting media selection – Use of media in Education– Instructional multimedia technology – Benefits of multimedia technology (Learner, Instructor, Administrative) – Issues concerning multimedia technology.

**Unit-III : ICT Based Learning & Teaching**

Teaching and Learning by Web Tools: Open Source Content – Wikipedia, Wiki Educator. Curriki, Blog Discussion Group, Online Forum, Online Video Conference, Social Networking – Orkut, Face Book, Twitter, Whatsapp – Instructional Use.

**Unit-IV : Evaluation of Teaching**

Purpose of evaluating teaching – Sources for teacher evaluation – Self – evaluation, Social, Political context – Teacher Accountability – Modes of Accountability, Legal/contractual, Moral, Social, Intellectual, professional. – Suggestions for enhancing Teacher Accountability – Obstacles to Quality teacher evaluation.

**Unit-V : Diagnostic Difficulties in Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Mathematics. Planning – Development – Remedial Instruction.

**Unit-VI : Creativity in Learning**

Creative Thinking in Mathematics. Imagination – Significance – Sensation And Imagery – Types Of Imagination – Nature – Characteristics – Nurturing and Stimulation of Creativity – Conditions that enhances Mathematical Creativity.

**Unit-VII : Review**

Meaning – Review of Units – Need and Importance – Characteristics of a Good Review of a Mathematics Lesson. – Types 1. Daily Lesson Review 2. Topical Review 3. Unit Plan Review 4. Co-Operative Review 5. Review By Application – Need and Importance – Characteristics of a Good Review of a Mathematics Lesson.

**Unit-VIII : Assignment**

Aims – Types of assignments in Mathematics (Preparatory, revision, study, remedial, Project, experience, problem, practice) – Individual assignments – Group assignments – Home assignments – Criteria of assignments – Procedure – significance – Teacher's role – Difficulties in the preparation – Advantages and Disadvantages.

**Unit-IX : Action Research**

Meaning – Characteristics of Action Research – Difference between Action Research and Fundamental Research – Steps – Advantages – Illustration.

**Unit-X : Research in Mathematics Education**

Need For Research in Mathematics Education – Problem in Teaching – Learning Process of Mathematics – Outcomes of Research – Learning to Understand How Children Learn Mathematics.



**III. PRACTICAL WORK**

- 1) Preparation of Multimedia instructional materials on mathematics.
- 2) Creating Blogs by the student and arranging Blog Discussion Group in the class room.
- 3) Drafting recent reports on the research findings of the Mathematics Education.
- 4) Identifying any one of the problem during teaching practice and Preparing Action Research.
- 5) Preparing assignments about the significance and limitations of various Social Networks.

**IV. REFERENCES**

- 1) Robert A. Reiser & Robert M. Gagne, 1983. Selecting Media for Instruction, New Jersey.
- 2) Lya Cremor-Hayon, 1993. Teacher Self – Evaluation, Teacher's in their Own Mirrors, Kluwer Academic Publishers.
- 3) Kenneth D. Peterson, 2000. Teacher Evaluation, Sage Publications, New Delhi.
- 4) James H. Stronge, 2006. Evaluating Teaching: A Guide to Current Thinking and Best Practice, Corwin Press, US of America.
- 5) Tracey E. Hall, Anne Meyer, David H. Rose, 2008. Universal Design Learning in the Classroom, The Guilford Press, New York.

**PC I-4: PEDAGOGY OF PHYSICS – [PART-2]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**OBJECTIVES**

The student teacher

- acquires knowledge of the Planning For Instruction in the teaching Physics.
- understands the factors behind Media Selection of teaching Physics. The purpose of Review, assignments.
- applies the knowledge in ICT Based Learning & Teaching in actual class room situation.
- develops skill in preparing multimedia lessons to teaching and learning Physics.
- develops interest in knowing recent Research in Physics Education.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

**COURSE OUTLINE****Unit-I : Planning for Instruction**

Long term plan, Medium term plan, short term plan – Key questions for lesson planning – Stages of planning – Identifying the need for instruction – Planning for Differentiated Instruction – Ways of differentiation Instruction – Universal design learning – Principles of Universal design learning – Steps for Creating visual media

**Unit-II : Media Selection**

Factors in Media Selection 1.Physical attributes of media (Visuals, Printed materials, Sound, Motion, Colour, Real objects) 2. Learner characteristics Instructional setting and Categories of learning outcome, events of Instruction, task characteristics 3.Practical factors – Factors affecting media selection – Use of media in Education – Instructional multimedia technology – Benefits of multimedia technology(Learner, Instructor, Administrative) – Issues concerning multimedia technology.

**Unit-III : ICT Based Learning &Teaching**

Teaching And Learning By Web Tools: Open Source Content – Wikipedia, Wiki Educator, School Education Uses In Teaching And Learning. Curriki, Blog Discussion Group, Online Forum, Online Video Conference, Using In Teaching And Learning. Social Networking – Orkut, Face Book, Twitter, Whatsapp – Instructional Use.

**Unit-IV : Evaluation of Teaching**

Purpose of evaluating teaching – Sources for teacher evaluation – Self – evaluation, Social, Political context – Teacher Accountability – Modes of Accountability, Legal/contractual, Moral, Social, Intellectual, professional. – Suggestions for enhancing Teacher Accountability – Obstacles to Quality teacher evaluation.

**Unit-V : Diagnostic Difficulties in Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Science.Planning – Development – Remedial Instruction.

**Unit-VI : Creativity In Learning**

Factors Influencing the Learning of Physics – Motivation, Maturation, Perception, Special Abilities, Attitude and Aptitude – Divergent Thinking in Physics – Creative Thinking in Physics. Imagintion – Significance – Sensation and Imagery – Types of Imagination – Dangers of Imagintion.

**Unit-VII : Review**

Review of Units – Need and Importance – Characteristics of a Good Review of a Physics Lesson. Meaning – Types 1.Daily Lesson Review 2.Topical Review 3.Unit Plan Review 4.Co-Operative Review 5.Review By Application – Need and Importance – Characteristics of a Good Review of a Physics Lesson.

**Unit-VIII : Assignment**

Assignment method – Aims of Assignment – Teachers role – Types of Assignments in Physics – Significance – Characteristics of Good Assignments – Merits – Demerits.

**Unit-IX : Action Research**

Meaning – Characteristics of Action Research – Difference between Action Research and Fundamental Research – Steps – Advantages – Illustration.

**Unit-X : Research In Physics Education**

Need For Research In Physics Education – Problem In Teaching – Learning Process Of Physics – Outcomes Of Research.

**III. PRACTICAL WORK**

- 1) Preparation of Multimedia instructional materials on physical science.
- 2) Creating Blogs by the student and arranging Blog Discussion Group in the class room.
- 3) Drafting recent reports on the research findings of the Physical science Education.
- 4) Identifying any one of the problem during teaching practice and Preparing Action Research.
- 5) Preparing assignments about the significance and limitations of various Social Networks.

**IV. REFERENCES**

- 1) Boulind, H.E., 1972. The Teaching of Physics in Tropical Secondary School, Oxford University, London.
- 2) Dale E.D., 1970. Audio Visual Methods Teaching, Dryden Press, New York. of Science in Our School, Chand & Co. P. Ltd., New Delhi.
- 3) Newbur, N.F., 1983. Teaching of Physical science in Tropical Secondary Schools, Oxford University Press, London.
- 4) Sharma, R.C., 1976. Modern Science Teaching, Dhanpet Rai & Sons, Delhi.

**PC I-5: PEDAGOGY OF CHEMISTRY – [PART-2]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the Planning For Instruction in the teaching Chemistry.
- understands the factors behind Media Selection of teaching Chemistry. The purpose of Review, assignments.
- applies the knowledge in ICT Based Learning & Teaching in actual class room situation.
- develops skill in preparing multimedia lessons to teaching and learning Chemistry.
- develops interest in knowing recent Research in Chemistry Education.
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

**II. COURSE OUTLINE****Unit-I : Planning For Instruction**

Long term plan, Medium term plan, short term plan – Key questions for lesson planning – Stages of planning – Identifying the need for instruction – Planning for Differentiated Instruction – Ways of differentiation Instruction – Universal design learning – Principles of Universal design learning – Steps for Creating visual media.

**Unit-II : Media Selection**

Factors in Media Selection 1. Physical attributes of media (Visuals, Printed materials, Sound, Motion, Colour, Real objects) 2. Learner

characteristics Instructional setting and Categories of learning outcome, events of Instruction, task characteristics 3. Practical factors – Factors affecting media selection – Use of media in Education – Instructional multimedia technology – Benefits of multimedia technology (Learner, Instructor, Administrative) – Issues concerning multimedia technology.

### **Unit-III : ICT Based Learning & Teaching**

Teaching and Learning By Web Tools: Open Source Content – Wikipedia, Wiki Educator, School Education Uses In Teaching and Learning. Curriki, Blog Discussion Group, Online Forum, Online Video Conference, Using In Teaching and Learning. Social Networking – Orkut, Face Book, Twitter, Whatsapp – Instructional Use.

### **Unit-IV : Evaluation of Teaching**

Purpose of evaluating teaching – Sources for teacher evaluation – Self – evaluation, Social, Political context – Teacher Accountability – Modes of Accountability, Legal/contractual, Moral, Social, Intellectual, professional. – Suggestions for enhancing Teacher Accountability – Obstacles to Quality teacher evaluation.

### **Unit-V : Diagnostic Difficulties in Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties In Learning Science. Planning – Development – Remedial Instruction.

### **Unit-VI : Creativity in Learning**

Meaning and Definitions – Nature and Characteristics – Identification of creative children – Imagination – Significance – Sensation and Imagery – Types of imagination – Dangers of Imagination – Imagination and chemistry – Creativity and Physics – Nurturing and stimulation of creativity.

### **Unit-VII : Review**

Review Of Units – Need and Importance – Characteristics of a Good Review of a Chemistry Lesson. Meaning – Types 1. Daily Lesson Review 2. Topical Review 3. Unit Plan Review 4. Co-Operative Review 5. Review by Application – Need and Importance – Characteristics of a Good Review of a Chemistry Lesson.

### **Unit-VIII : Assignment**

Aims – Types of assignments in Chemistry (Preparatory, revision, study, remedial, Project, experience, problem, practice) – Individual assignments – Group assignments – Home assignments – Criteria of assignments – Procedure – significance – Teacher's role – Difficulties in the preparation – Advantages and Disadvantages.

### **Unit-IX : Action Research**

Meaning – Characteristics of Action Research – Difference between Action Research and Fundamental Research – Steps – Advantages – Illustration

### **Unit-X : Research In Chemistry Education**

Need for Research in Chemistry Education – Problem in Teaching – Learning Process of Chemistry – Outcomes of Research.

**III. PRACTICAL WORK**

- 1) Preparation of Multimedia instructional materials on physical science.
- 2) Creating Blogs by the student and arranging Blog Discussion Group in the class room.
- 3) Drafting recent reports on the research findings of the Physical science Education.
- 4) Identifying any one of the problem during teaching practice and Preparing Action Research.
- 5) Preparing assignments about the significance and limitations of various Social Networks.

**IV. REFERENCES**

- 1) Saunders, A.N., 1955. Teaching of General Science in Tropical Secondary School, Printed in Great Britain by Butter and Taunton Limited, London.
- 2) Sharma, P.C., 2006. Modern Science Teaching, Dhanpat Rai Publications, New Delhi.
- 3) Nayak, 2003. Teaching of Physics, APH Publications, New Delhi.
- 4) Pandey, 2003. Major Issues in Science Teaching, Sumit Publications, New Delhi.
- 5) Yadav, M.S., 2003. Teaching of Science, Amol Publications. New Delhi.
- 6) Gupta, S.K., 1985. Teaching of Chemistry in Secondary Schools, Sterling Publication (Pvt.) Limited.
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- 9) Edgar Dale, Audio – Visual Methods in Teaching, Revised Edition, Thy Dryden Press, New York.
- 10) Siddiqui, 1985. Teaching of Science Today and Tomorrow, Doals House.
- 11) Patton, M.Q., 1980. Qualitative Evaluation Methods, Sage Publications, India.
- 12) UNESCO, 1979. The UNESCO Source Book for Science Teaching. UNESCO, Paris.
- 13) Panner Selvam, A., 1976. Teaching of Chemistry (Tamil), Government of Tamil Nadu.
- 14) Nair, C.P.S., 1971. Teaching of Science in our Schools, Sulthan Chand & Co. (Pvt.) Limited.
- 15) Rao, C.S., 1968. Science Teacher's Handbook, American Peace Crops.
- 16) Joseph, 1966. The Teaching of Science, Harvard University Press.
- 17) Kerr, S.T., (Ed.), Technology and the Future of Schooling, University of Chicago Press, U.S.A.
- 18) Newbury N.F., Teaching of Chemistry in Tropical Secondary Schools, Oxford University Press.
- 19) Owen, C.B., 1966. Methods of Science Master, The English Language Society and Macmillan Company Limited. New York
- 20) Thurber, Walter, A., and Collette, Alfred, T., 1964. Teaching Science in Today's Secondary School, Prentice Hall of India Pvt. Ltd.
- 21) Saunders, A.N., 1955. Teaching of General Science in Tropical Secondary School, Printed in Great Britain by Butter and Taunton Limited, London.

**PC I-6: PEDAGOGY OF ZOOLOGY – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher:

- acquires knowledge about the teaching and learning of zoology.
- understands the
  - planning for instruction.
  - various aids to teaching zoology and application of ICT in teaching of zoology at various levels and especially in the higher secondary schools.
  - need and importance enhancing creativity to the zoology learner.
  - identification and diagnoses of difficulties in learning zoology.
  - need and importance of creativity in learning zoology.
  - different techniques in reviewing lesson.
  - importance of action research in quality improvement of teaching zoology
- develops skills in
  - preparing, and using the appropriate instructional materials in teaching zoology.
  - preparing and using different techniques of evaluation of pupils; progress.
  - using ICT based teaching
  - identifying learning difficulties in learning zoology.

**II. COURSE OUTLINE****Unit-I : Planning for Instruction**

Identification and organisation of concepts for teaching Zoology – Instructional materials required for planning teaching Zoology – Preparation of Lesson plan for teaching Zoology at higher secondary level.

**Unit-II : Media Selection**

Media and its uses – Procedure for media selection – Factors in media selection.

**Unit-III:ICT Based Teaching and Learning**

Internet and its applications in teaching and learning of zoology – Application of e – learning, teleconferencing and EDUSAT in teaching of zoology.

**Unit-IV : Evaluation of Teaching**

Evaluation of science teacher by peers – Evaluation by students – Evaluation by experts.

**Unit-V : Diagnosing Difficulties in Learning Zoology**

Importance, purpose and process of diagnosing the difficulties of learning zoology – Ways of providing suitable measures.

**Unit–VI : Creativity in Learning Zoology**

Meaning and definitions of creativity – Need of creativity for learning zoology – Qualities of highly creative children – How to foster creativity in children?

**Unit–VII : Review of Units in Zoology**

Need and importance reviewing lesson in zoology – Characteristics of a good review – Different techniques of reviewing lesson.

**Unit–VIII : Assignment**

Type of assignment to be given – Importance of assignment in learning zoology – Characteristics of good assignment.

**Unit–IX : Action Research in Teaching Zoology**

Meaning and definitions of action research – Importance of action research for the quality improvement in teaching – Objectives of action research – Steps in action research.

**Unit–X: Research in Science Education**

Need for research in science education – Recent trends in research in science education.

**III. PRACTICAL WORK**

- 1) Prepare a detailed report regarding the materials and media prepared and used by you for your teaching and learning process.
- 2) Conduct a debate on a life science based issue and prepare a self evaluation report.
- 3) Prepare a report on field trip organized by you for your students.
- 4) Prepare a report on action research conducted by you to improve the quality of teaching and learning process.
- 5) Prepare an e-work book on any one of the unit in zoology at higher secondary level.

**IV. REFERENCE BOOKS**

- 1) Ameeta, P., 2005. Methods of Teaching Biological Science. Hyderabad: Neelkamal Publications Pvt.Ltd.
- 2) Bhatt, B.D., Sharma S.R., 1996. Methods of Teaching Science. Delhi: Kanishka Publishing House.
- 3) Choudhary, S., 2004. Teaching of Biology. New Delhi: APH Publishing Corporation.
- 4) Cronbach, L.J. & Snow, R.E., 1977. Aptitude and Instructional Methods. New York: Irvington Publishers.
- 5) Das, R.C., 1985. Science Teaching in Schools. New Delhi: Sterling Publishers.
- 6) Deepak Dayal, Richa Bhatt and Biswajit Ray, 2007. Modern Methods of Teaching Biology. New Delhi: APH Publishing Corporation.
- 7) Krishnamacharyulu, V., 2011. Science Education. Hyderabad: Neelkamal Publications pvt.Ltd.,
- 8) Lakshmi Gadde, Bhuvaneshwara, 2003. Methods of Teaching Life Sciences. New Delhi: Discovery publishers.
- 9) Malhotra, V., 2007. Encyclopaedia of Modern Methods of Teaching Science. New Delhi: Crescent Publishing Corporation.

- 10) Mujibul Hasan Siddiqui, 2007. Teaching of Science. New Delhi: APH Publishing Corporation.
- 11) Narendera Vaidya, 1999. Science Teaching for the 21<sup>st</sup> century. New Delhi: Deep&Deep Publication.
- 12) NCERT (2006). National Curriculum Framework for School Education 2005, New Delhi: NCERT Publications.
- 13) Rajammal, K., 2009. Methods of Teaching Biological Science. Chennai: Santha Publication,
- 14) Rajput, J.S. (ed.) 2002. Experiences in School Education. New Delhi: NCERT Publications.
- 15) Schmeck, R.R., 1998. Learning Strategies and Learning Styles. New York: Plenum Press.
- 16) Sharma, R.C., 2002. Modern Science Teaching. New Delhi: Dhanpat Rai Publishing Company(P) Ltd.
- 17) Sood, J. K., 1985. Teaching Life Sciences. Delhi: Kohli Publications.
- 18) Taylor D.J. and Others, 2004. Biological Science. London: Cambridge University Press.

### **PC I-7: PEDAGOGY OF BOTANY – [PART-2]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher:

- Acquires thorough knowledge of concepts, terms, and procedures in Botany taught in higher secondary schools and the latest development.
- Understands the
  - planning for instruction.
  - various aids to teaching Botany and application of ICT in teaching of Botany at various levels in higher secondary schools.
  - identification and diagnoses of difficulties in learning Botany.
- Develops skills in
  - preparing, and using the appropriate instructional materials in teaching Botany.
  - preparing and using different techniques of evaluation of pupils; progress.
  - identifying learning difficulties in learning Botany.
  - various activities pertaining to teaching and learning.
  - Appreciates the contribution of the subjects to the teaching and learning.



## II. COURSE OUTLINE

### Unit-I : Planning for Instruction

Identification and organisation of concepts for teaching Botany – Instructional materials required for planning teaching Botany – Preparation of Lesson plan for teaching Botany at higher secondary level.

### Unit-II : Media Selection

Media and its uses – Procedure for media selection – Factors in media selection

### Unit-III:ICT Based Teaching and Learning

Internet and its applications in teaching and learning of Botany – Application of e – learning, teleconferencing and EDUSAT in teaching of Botany.

### Unit-IV : Evaluation of Teaching

Evaluation of science teacher by peers – Evaluation by students – Evaluation by experts.

### Unit-V : Diagnosing Difficulties in Learning Botany

Importance and purpose of diagnosis the difficulties of learning Botany – Ways providing suitable measures – Educational implications of improvisation of media.

### Unit-VI : Creativity in Learning Botany

Meaning and Definitions of Creativity – Need of creativity for learning Botany – Qualities of highly creative children – How to foster creativity in children.

### Unit-VII : Review of Units in Botany

Need and importance reviewing lesson in Botany – Characteristics of a good review – Different techniques of reviewing lesson.

### Unit-VIII : Assignment

Type of assignment to be given – Importance of assignment in learning Botany – Characteristics of good assignment.

### Unit-IX : Action Research in Teaching Botany

Meaning and definitions of action research – Importance of action research for the quality improvement in teaching – Objectives of action research – Steps in action research.

### Unit-X:Research in Science Education

Need for research in science education – Recent trends in research in science education.

## III. PRACTICAL WORK

- 1) Submit a report about the uses of internet in the field of Botany.
- 2) Select any one topic from Higher secondary Botany syllabus – identify the learning difficulties and suggest suitable remediable measures.
- 3) Prepare an instructional material for teaching botany.
- 4) Submit an assignment on the different techniques of reviewing a lesson.
- 5) Prepare and submit a lesson plan using power point presentation on any one topic at the higher secondary level.

## IV. REFERENCE BOOKS

- 1) Narendera Vaidya,1999. Science Teaching for the 21<sup>st</sup> century,Deep&Deep Publication, New Delhi.
- 2) Sharma,R.C.,2002. Modern Science Teaching, Dhanpat Rai Publishing Company(P) Ltd,New Delhi.

- 3) Yadav, M.S., 2003. Teaching of Science Teaching, Anmol Publications, New Delhi.
- 4) Pandey, 2003. Major Issues in Science Teaching, Sumit Publications, New Delhi.
- 5) Ameeta.P., 2005. Methods of Teaching Biological Science, New Delhi.
- 6) Venugopal, G. and Nithyasri, N., 2005. Teaching of Biology, Ram Publishers, Chennai.
- 7) Mujibul Hasan Siddiqui, 2007. Teaching of Science, APH Publishing Corporation, New Delhi.
- 8) Deepak Dayal, Richa Bhatt and Biswajit Ray, 2007. Modern Methods of Teaching Biology, APH Publishing Corporation, New Delhi.
- 9) Aggarwal, D.D., 2008. Modern Method of Teaching Biology, Karanpaper Backs, New Delhi.
- 10) Rajammal, K., 2009. Methods of Teaching Biological Science, Santha Publication.
- 11) Krishnamacharyulu, V., 2011. Science Education, Neelkamal Publications Pvt.Ltd., Hyderabad.

### **PC I-8: PEDAGOGY OF COMPUTER SCIENCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires knowledge of the Planning For Instruction in the teaching Computer science.
- understands the factors behind Media Selection of teaching Computer science. The purpose of Review, assignments.
- applies the knowledge in Ict Based Learning & Teaching in actual class room situation.
- develops skill in preparing multimedia lessons to teaching and learning Computer science.
- develops interest in knowing recent Research in Computer science Education
- develops scientific/positive attitude towards the teaching and learning.
- appreciates the contribution of the subjects to the teaching and learning.

#### **II. COURSE OUTLINE**

##### **Unit-I : Planning For Instruction**

Long term plan, Medium term plan, short term plan – Key questions for lesson planning – Stages of planning – Identifying the need for instruction – Planning for Differentiated Instruction – Ways of differentiation Instruction – Universal design learning – Principles of Universal design learning – Steps for Creating visual media.

##### **Unit-II : Media Selection**

Factors in Media Selection 1. Physical attributes of media (Visuals, Printed materials, Sound, Motion, Colour, Real objects) 2. Learner characteristics Instructional setting and Categories of learning outcome, events of

Instruction, task characteristics 3. Practical factors – Factors affecting media selection – Use of media in Education – Instructional multimedia technology – Benefits of multimedia technology (Learner, Instructor, Administrative) – Issues concerning multimedia technology.

### **Unit–III : ICT Based Learning & Teaching**

Teaching and Learning by Web Tools: Open Source Content – Wikipedia, Wiki Educator. Curriki, Blog Discussion Group, Online Forum, Online Video Conference, Social Networking – Orkut, Face Book, Twitter, Whatsapp – Instructional Use.

### **Unit–IV : Evaluation of Teaching**

Purpose of evaluating teaching – Sources for teacher evaluation – Self – evaluation, Social, Political context – Teacher Accountability – Modes of Accountability, Legal/contractual, Moral, Social, Intellectual, professional. – Suggestions for enhancing Teacher Accountability – Obstacles to Quality teacher evaluation.

### **Unit–V : Diagnostic Difficulties in Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Computer science. Planning – Development – Remedial Instruction.

### **Unit–VI : Creativity in Learning**

Creative Thinking in Computer science. Imagination – Significance – Sensation and Imagery – Types of Imagination – Nature – Characteristics – Nurturing and Stimulation of Creativity – Conditions that enhances Creativity.

### **Unit–VII : Review**

Meaning – Review of Units – Need and Importance – Characteristics of a Good Review of a Computer science Lesson. – Types 1. Daily Lesson Review 2. Topical Review 3. Unit Plan Review 4. Co-Operative Review 5. Review by application – Need And Importance – Characteristics of a Good Review of a Computer science Lesson.

### **Unit–VIII : Assignment**

Aims – Types of assignments in Computer science (Preparatory, revision, study, remedial, Project, experience, problem, practice) – Individual assignments – Group assignments – Home assignments – Criteria of assignments – Procedure – significance – Teacher's role – Difficulties in the preparation – Advantages and Disadvantages.

### **Unit–IX : Action Research**

Meaning – Characteristics of Action Research – Difference between Action Research and Fundamental Research – Steps – Advantages – Illustration.

### **Unit–X : Research in Computer Science Education**

Need For Research in Computer science Education – Problem in Teaching – Learning Process of Computer science – Outcomes of Research – Learning to Understand How Children Learn Computer science.

## **III. PRACTICAL WORK**

- 1) Preparation of Multimedia instructional materials on Computer science.
- 2) Creating Blogs by the student and arranging Blog Discussion Group in the class room.

- 3) Drafting recent reports on the research findings of the Computer science Education.
- 4) Identifying any one of the problem during teaching practice and Preparing Action Research.
- 5) Preparing assignments about the significance and limitations of various Social Networks.

#### **IV. REFERENCE BOOKS**

- 1) Rao, P.V.S.,1981. Computer Programming, TMH, Delhi.
- 2) Roger Humt Hon Shelley,1975. Computers and Common Sense, Prentic Hall (India) Delhi.
- 3) Shied, Introduction to Computer Science, SCHAVM.
- 4) StanelyPogrow, Education in the Compute Age, Sage Publication, Delhi, 1993.
- 5) Steeven M. Rass, Basic Programmking for Education, Pentic Hall, New York, 1990.
- 6) Jared Keengve, Grace Onchwari,James.N.Oigara,(2014),Promoting Active learning through Flipped Classroom model, US of America.
- 7) Robert.A.Reiser&Robert.M.Gagne, 1983. Selecting Media for Instruction, New Jersey.
- 8) LyaCremor- Hayon, 1993.Tecaher Self-Evaluation, Teacher's in their own mirrors, Kluwer Academic Publishers.
- 9) Kenneth, D.Peterson, 2000. Teacher evaluation, Sage Publications, New Delhi.
- 10) JamesH.Stronge, 2006. Evaluating Teaching:A Guide to Current Thinking and Best Practice, Corwin Press, US of America.
- 11) TraceyE.Hall, Anne Meyer, DavidH.Rose, 2008. Universal Design Learning in the Classroom, The Guilford Press, New York.

#### **PC I-9: PEDAGOGY OF HISTORY – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and curricular approaches related to teaching history.
- understands the various innovative methods and techniques in teaching of history.
- understands the significance of relevant media and ICT in teaching history.
- understands the needs of different learner group and foster historical ideas and current events.
- develops interest to know the achievement in history.
- develops healthy social attitude in practising the spirit of noble ideas.
- inculcates the research attitude.

## II. COURSE OUTLINE

### Unit-I : Planning for Instruction at Higher Secondary Level

Need for planning – Principles of planning – Instructional materials for planning – Unit plan. Importance of lesson plan – Steps in a lesson plan – Model lesson plan.

### Unit-II : Media Selection

Meaning and significance – Radio's school broadcast – Educational Television – Role of the teacher in T.V.

### Unit-III : ICT Based Teaching and Learning

Computer assisted instruction – Interact and its applications – working of internet – e-learning – World wide web – Teleconferencing – Satellite – EDUCSAT.

### Unit-IV : Evaluation of History Teaching

Evaluation in history – Concept of evaluation – Purpose of evaluation – Principles of good evaluation – Formative and summative evaluation – Advantages – Construction of achievement test at higher secondary level – Characteristics – Criteria of good question paper.

### Unit-V : Diagnosing Learning Difficulties in History

Identifying learning difficult learners – Factors hindrance to learning – Motivating the learner.

### Unit-VI : Creativity in Learning History

Identification – Need for identifying creative children – Educational programmes to foster creativity.

### Unit-VII : Utilizing Current Events and Contemporary Affairs

Importance of current affairs in history – Objectives of teaching current events – How to select current affairs for teaching of history – Techniques of teaching current affairs – Role of history teacher in imparting knowledge of current affairs.

### Unit-VIII : Action Research

Meaning – Difference between formal research and action research – Different stages of action research – Determination of problem area – probable causes – Formulation of hypotheses – Testing hypotheses – Action programme – Analysis and interpretation.

### Unit-IX : Research in history

Need for research in history education – Recent trends.

## III. PRACTICAL WORK

- 1) Creative write up of two pages on a current historical problem.
- 2) A project report about to visit any one of the place of historical importance.
- 3) Prepare a chart showing the important battles in the Mughal Period.
- 4) Compare any two civilizations flourished in Northern India.
- 5) Write the important contributions of first five president in India.

## IV. REFERENCE BOOKS

- 1) Busrston.W.H, Principles of history teaching, Methuen & Co. Ltd., London, 1963.
- 2) Chaudhary.K.P, The Effective Teaching of History, N.C.E.R.T., NewDelhi.

- 3) Kochhar, S.K. Teaching of History, Sterling publishers private Limited, New Delhi, 2005.
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### **PC I-10: PEDAGOGY OF ECONOMICS – [PART-2]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquire the knowledge of Lesson plan, evaluation and learning experiences.
- develops understanding of the construction of achievement test in Economics.
- applies the principles of approaches in teaching Economics.
- develops the skill of giving suitable assignments and reviews for the teaching of Economics.

#### **II. COURSE OUTLINE**

##### **Unit-I : Lesson Plan**

The nature of Lesson plan – Meaning – Important – Functions – Four types of Planning – Advantages – Preparation of good Lesson Plan – Unit Plan.

##### **Unit-II : Organizing Learning Experiences**

Learning experience – Types – Levels, Procedures – Topics in Economics – Developing suitable learning experiences for different topics of Economics – Organizing suitable learning for different topics.

##### **Unit-III : Evaluation in Economics**

Evaluation in Economics – Purpose – Aspects – Objective based evaluation – Preparation of Blue print – Different types of Evaluation – Diagnostic and remedial methods – Examination reforms – Internal and External exam – Theory and practical areas in evaluation.

##### **Unit-IV : Construction of Tests**

Meaning – concept – Different types of questions – Objective type, short answer, essay type – Its significance merits and demerits.

Characteristics of good test – Different types of test – Diagnostic, Prognostic and achievement test – Construction and Standardization of achievement test – Significance of test.

**Unit-V : Specific Approaches of Economics**

Learning centered approach – Problem solving approach – Team teaching approach – Instructional approaches – Experimental approach – Integral approaches – Significance of specific approaches.

**Unit-VI : Reviewing in Economics**

Reviewing in Economics – Principles – Characteristics – Methods – Techniques of using different types of Reviewing.

**Unit-VII : Assignment in Economics**

Assignment in Economics – Principles – Important – Types – Techniques of using – Individual – Group – Project assignment suitable for learning different Economic concepts.

**Unit-VIII : Content and Pedagogical Analysis**

Aspects of Pedagogical analysis – Utility of Pedagogical analysis for Economics teacher – Content analysis of Higher Secondary Economics syllabus.

**Unit-IX : Teaching and Learning Resources**

Text books – Periodicals – Journals – Reference book materials – Community resources – Technical documents – Surveys – Current affairs – Guest speakers – Community field trip – Audio visual materials – Economics library – club, museum and Economics Class room.

**Unit-X : Text Book Analysis**

Characteristics of good text book – Economics evaluation of different types of text books – CBSE and State board.

**III. PRACTICAL WORK**

- 1) Preparation of unit plans in economics
- 2) Visit different types of banks, super market, warehouse and industries
- 3) Collection of year book, newspapers, magazines and articles related to economics.
- 4) Preparation of 5 min power point presentation not less than 10 slides, with photocopy of the slides.
- 5) Present a paper on any unit solely with the use of internet, with details of the websites & URL's visited.

**IV. REFERENCES**

- 1) J.Caggarwal, 2011. Teaching of Economics (A Practical Approach), 2<sup>nd</sup> Edison Vitas Publishing House.
- 2) AmitaYadav, 1995.,Teaching of Economics First Edison, Anmol Publication Pvt Ltd, New Delhi.
- 3) Rudramamba,et.al., 2010.Methods of Teaching Economics, Discovery Publishing House, New Delhi.
- 4) Tonne, Popham and Freeman, 1995.,Methods of Teaching Business Subjects, McGraw Hill.
- 5) Kochar, S.K., TheTeaching of Social Studies Sterling Publishers Pvt. Ltd., New Delhi.
- 6) Ebel and L.Robert. 1965., Measuring Educational Achievement, Prentice Hall International. Inc, USA.

- 7) Binning, A.C. and D.A. Binning, Teaching the Social Studies in Secondary School, McGraw Hill. New York.
- 8) Keith Lumsden, 1967., New Developments in the Teaching of Economics, Prentice Hall the Englewood, New Jersey.

### **PC I-11: PEDAGOGY OF COMMERCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The Student teacher

- acquires knowledge of the principles of content and conceptual analysis.
- understands the various aspects of content analysis.
- applies the knowledge in analyzing the commerce and accountancy content in pedagogical terms.
- develops skill in construction and preparation of lesson plans, question papers and teaching aids.
- develops interest in analyzing the various commerce course contents in pedagogical terms.
- develops a desirable positive attitude towards teaching commerce.

#### **II. COURSE OUTLINE**

##### **Unit-I : Lesson Planning**

Importance of planning – year plan, unit plan, preparation of lesson plan – principles involved – need and importance – significance of lesson plan for commerce and accountancy at higher secondary level – demonstration and criticism classes.

##### **Unit-II : Organizing – Learning Experience**

Learning experiences – definition – concept – types of learning experiences to different branches of commerce – learning experience in commerce and accountancy – a model of experience in teaching one unit in commerce. Coneofexperiences – different strata – use of each layer to the commerce teaching with illustration – significance.

##### **Unit-III : Evaluation in Commerce**

Evaluation in the teaching of commerce – modern concept – significance – need – Objective Based Evaluation(OBE) – Formative evaluation, summative evaluation significance and purpose of evaluation – its role teaching – learning – process. diagnostic, prognostic and achievement test. Identifying learning difficulties in commerce – remedial measures.

##### **Unit-IV : Construction of Test**

Characteristics of a good test – meaning – concept – construction and standardization of an achievement test – test items – importance and its significance. Blue print format preparation construction of different types of question – objective type, short answer type, essay type – its significance merits and demerits.



**Unit-V : Specific Approaches of Book – Keeping**

Principles of book – keeping – approaches of teaching book – keeping – Journal approach – ledger approach – cash book approaches – balance sheet approach – complete cycle approach – equation approaches – single entry approach.

**Unit-VI : Review in Commerce**

Review of units in commerce – need and importance of reviewing lesson – characteristics of good review – different techniques of reviewing a lesson – different types review in commerce.

**Unit-VII :Assignment in Commerce**

Assignment – types – importance – characteristics of a good assignment – types of assignment with illustrations in commerce.

**Unit-VIII : Content and Pedagogical Analysis**

Aspects of pedagogical analysis – utility of pedagogical analysis for commerce teachers – content analysis of higher secondary commerce syllabus.

**Unit-IX : Teaching – Learning Resources**

Utilizing community resources – meaning, types and their uses in the teaching of commerce establishing link between school and community field trip – work experience – guest speakers – commerce club – developing commerce interest and attitude – related activities.

**Unit-X : Text – Book Analysis**

Characteristics of good commerce and accountancy text book – detailed analysis of Tamil Nadu higher secondary commerce and accountancy text book of regular and vocational stream – CBSE commerce text books.

**III. PRACTICAL WORK**

- 1) Export – Import procedure manuals
- 2) Tax Procedure documents
- 3) Company documents
- 4) Visit to small scale industries and co-operative institutions
- 5) Organize and celebrate consumer week activities in your locality

**IV. REFERENCE BOOKS:**

- 1) Teaching of commerce – J.C.Aggarwal.
- 2) Teaching of commerce – Rainu Gupta – Shipra publications – shakrpur – NewDelhi
- 3) Kochhar, S.K., Methods and Techniques of teaching, SterlingPublishers, New Delhi, 1992.
- 4) Musseeman, Vernon A. and et al., Method of teacher accountancy, McGraw Hill Inc. USA, 1979
- 5) Sharma, R.A., technology of teaching, international publishing house ,
- 6) Meerut ,India, 1988.
- 7) Jangira and et al. Core Learning Skills, The Micro Teaching Approach
- 8) NCERT, New Delhi, 1982.
- 9) Khan, M.S., Commerce Education, Sterling Publication Ltd. 1992.
- 10) Pia Nazareth, M., Education – Goals, Aims and objectives, Vikas Publishing House Pvt., Ltd., 1984.
- 11) Kochar, S.K., The Teaching of Social Studies, Sterling Publishers Pvt. Ltd., New Delhi, 1963.

**PC II-1: PEDAGOGY OF TAMIL – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires the linguistics concepts of tamil language.
- understands the innovations of tamil language teaching and literary criticism.
- develops attitude towards the origin and development of short stories and novels
- develops positive attitudes towards musical tamil and goals of national education.
- Develop positive attitude towards teaching with multimedia and computer related equipments.

**II. COURSE OUTLINE****Unit-I : Speech Organs**

Speech organ – origin of sound – vowels and consonants – origin – Pronunciation – classification of sounds – super segmentation – fundamental grammar – Transfer of sentences.

**Unit-II : Developing skill of Reasoning**

Skill of listening – concepts – importance – learn through hearing – How to improve – hearing is the basic skill – Listen Radio and F.M speeches of Experts – Using web resources.

**Unit-III : Innovations in Tamil Teaching**

Innovation of Tamil Teaching – Individual differences – Teaching Techniques – Programmed instruction – supervised study – class room teaching – merits and demerits.

**Unit-IV :Language Criticism**

Language criticism – basic principles – classification – classification based on the plays – explanatory – tradition – Aesthetic – value based – Historical based – comparative praising – need for literary criticism – teachers role.

**Unit-V : National Goals**

Relationship between national goals and aims of education – mother tongue in curriculum – Language Education in national educational Policy – curricular concepts – relation ship between school curriculum and Educational goals.

**Unit-VI : Difficulties in Spoken Tamil**

Difficulties in spoken Tamil – kinds – without knowing the correct words – without knowing the correct pronunciation – without knowing the different meaning when a spelling changes – some spelling mistakes – puncitional marks – Uses.

**Unit-VII : Music in Tamil**

Music in Tamil – Tamil and music – music in Tamil Education – Musical concepts in Tholkappiyam – Pakthi songs – Musical aspects – Folk songs – Modern songs – Musical aspects in those songs.

**Unit-VIII : Short Stories**

Short stories – Origin and development – concepts – importance – Pudumaipithan, Lakshmi, Meeramytheen, Modern short stories – origin and development.

**Unit-IX : History of Novels**

Novel – concept – origin and development, present novels – content – Kalki, Poneelan, Neelampadmanaban, SundaraRamasamy – Popular writings – special features – Novels contented with some principles of the authors.

**Unit-X : Computers in Language Teaching**

Tamil language and computers – multimedia presentation to Tamil teaching – Tamil language as official language and Administrative language – problems – merits and demerits, uses of multimedia for language teaching.

**III. PRACTICAL WORK**

- Prepare an Criticism Essay on any one topic.
- Prepare hand written school magazine.
- Identify the common mistakes in spoken Tamil.
- Prepare a report regarding importance of folk songs in Tamil.
- Take any one topic in Tamil and prepare a programmed instructional material.

**IV. REFERENCE BOOKS**

- Vijayalakshmi, 2008. KarpithalinSikkalkal – Theervikal, SanthaPathipagam, Chennai.
- Ganapathi, V., 2005. NatamilKarpikumMuraigal, Part II, Santha Publishers, Chennai.
- Ganamurthi, T.A., 2002. Elakiyathiranaiviyal, YalValiyidi, Chennai.
- ThuraiKannuMuthaliyar, N., 1962. KalviKalai, AmuthaNilayam private limited, Chennai.
- Venugopal, E.P., 2008. PainthamilKarpikumMuraikal, Saratha Pathipaham, Chennai.

**PC II-2: PEDAGOGY OF ENGLISH – [PART-2]**

Total Marks: 100

Credits: 4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and procedures in the pedagogy of English

- understands the concepts, terms and procedure in the innovations, trends, and approaches of teaching English
- applies the knowledge in actual classroom situations
- develops interest in various activities pertaining to teaching and learning of English
- develops interest in knowing recent developments in the innovations, trends, and approaches of teaching English
- develops positive attitude towards teaching and learning of English
- appreciates the contribution of English language to the process of teaching and learning

## **II. COURSE OUTLINE**

### **Unit-I : Development of Receptive Skills**

Listening skill – sub – skills – types of listening – strategies to improve listening skills – Reading skill – sub skills – types – methods of reading – strategies to improve reading skill.

### **Unit-II : Development of Productive Skills**

Speaking skill – subskills – types of drills – strategies to improve speaking skill – writing skill – sub skills – mechanics – factors – causes for bad handwriting – qualities of good handwriting.

### **Unit-III : Phonetics**

Elements of English language – – Speech organs and their role – – individual sounds – vowels – consonants – semi vowels – Pure vowels – cardinal vowel scale – – diphthongs – phonetic transcription – stress – word stress – sentence stress – Rhythm – intonation – types.

### **Unit-IV : Fluency**

Use of conventional formulae – greeting – apology – invitation – refusal – accepting – thanking – Describing and interpreting picture, table, graphs , maps – Various concepts and ways in which they are expressed – suggestion – prohibition – permission – probability – likelihood – possibility – obligation – necessity – concession.

### **Unit-V : Lexis**

Wordformation – affixation – conversion – compounding – clipping – portmanteau – onomatopoeia – patterns of spelling – sentence connectors – devices for cohesion and coherence – phrasal verbs – prepositional phrases.

### **Unit-VI : Reference and Study Skills**

SQ3R method of reading – Study skills – Note making – Note – making – summarizing – paraphrasing – Reference Skills – Library – dictionary – thesaurus – encyclopedia – bibliography.

### **Unit-VII : Co-Curricular Activities**

Language games – organization of debates – extempore speech – elocutions – dramatization – forms of dramatic representation (drama, rhythms, puppet shows, role play etc) – wall – class – school magazine – situational use of language.

### **Unit-VIII : Review and Translation**

Need and importance of reviewing – steps involved – advantages of reviewing – translation – principles – procedure – advantages.

### **Unit-IX :ICT in ELT**

Use of internet – web based learning – Internet and its applications – blog – podcasts – e-mail – e-learning – m-learning – teleconferencing – EDUSAT – CAI – CAELL – CALL.

### **Unit-X : Recent Research in Language Education**

Research in ELT – improving professional competency in ELT – role of EFLU – NCERT – RIE and The British Council – recent trends – current issues in ELT.

### **III. PRACTICAL WORK**

- 1) Prepare a labeled diagram of speech organs.
- 2) Prepare a vowels and consonants charts.
- 3) Prepare a diphthongs chart with illustrations
- 4) Prepare ofan album forstress and intonation
- 5) Transcribe any four paragraphs into phonetic script.

### **IV. REFERENCES**

- 1) Anne, V.K (2001) Methods of Teaching English. Hyderabad: New Era Publications.
- 2) Baruah, T.C (2006) The English Teachers Handbook. New Delhi: Sterling Publishers.
- 3) Close, R.A(1999 ) English as a Foreign Language. London: Longman.
- 4) Dash, B.N(2007)Teaching of English . New Delhi: Dominant Publishers.
- 5) Jack , Richards(2012) Approaches and Methods in Language Teaching. London: Cambridge.
- 6) Krishna Babu, Set al(2009) Reading Disabilities. New Delhi: Sonali.
- 7) Kohli, A.L(2006) Techniques of Teaching English. New Delhi: Dhanapat Rai Publications.
- 8) Mowla, Shaikh ( 2006) Techniques of Teaching English. Hyderabad:Neelkamal.
- 9) Pahuja, N.P( 2009) Teaching of English. New Delhi: Anmol Publications.
- 10) Swan, Michael( 2002) Practical English Usage. Oxford: OUP.
- 11) Venkateswaran, S(2011) Principle of Teaching English. New Delhi: Vikas Publishing House.
- 12) Vallabhi, J.E (2012) Teaching of English II: Principles and Practices. Hyderabad: Neekamal.

### **PC II-3: PEDAGOGY OF MATHEMATICS – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

### **I. OBJECTIVES**

The studentteachers

- acquires knowledge of the instructional materials and media, enrichment program for gifted and programs for backward learners in mathematics
- understands the technology of teaching mathematics and the use of audio visual aids, the special qualities professional growth of mathematics teacher
- applies knowledge in acquiring and understanding the techniques of organizing different co-curricular activities in mathematics
- develops the skills in the remedial instruction in the teaching of mathematics
- develops interest in planning their lessons and presenting them effectively
- develops a positive attitude recent developments in mathematics education

## **II. COURSE OUTLINE**

### **Unit-I : Learning Resources**

Stating Instructional Objectives, Identifying Learning Experiences, Appropriate Strategies, Teaching Aids; Lesson Plans–Preparation of Lesson Plans – Unit plans.

### **Unit-II : Instructional Materials And Media**

Classification of Audio Visual Aids (Projected and Non – Projected) – Their Importance – Principles and Use of Hardware: Film Strip cum Slide Projector, Overhead Projector, and Motion. Radio, TV, CCTV, Tape Recorder, Principles and Use of Software: Objects, Slides, Transparencies, CD, Audio and Video Tapes – Educational Broadcasts: Radio and T.V. Power Point – Use of Internet in Teaching.

### **Unit-III : Learning Resources**

Maths On line learning – Online worksheets – Graphic organizers – Library of videos on a variety of maths – Infographics – Work Books, library: Classification of Books Based on Themes, Role of Magazine, Journals, Periodicals, Encyclopedia, Newspaper And Websites.

### **Unit-IV : Activities of Mathematics**

Co-Curricular Activities: Organization of Mathematics Club, Mathematics Exhibitions and Fairs, Fieldtrips and Excursions. Conducting Mathematics Olympiads, Mathematics Quiz – Importance, Organizations Mathematics Museum, Summer Programmes, Correspondence Course, Recreational Activities—Games, Puzzles And Riddles In Mathematics.

### **Unit-V : Mathematics Laboratory and Organization**

Importance of Mathematics Laboratory – Planning of Mathematics Laboratory – Components of Mathematics Laboratory – Structure and Design – Organization of Laboratory Work, Individual Work and Group Work.

### **Unit-VI : Evaluation of Mathematics**

Tests and Its Types – Achievement Tests – Qualities of a Good Test – – Principles of Test Construction – Blue Print and Question Paper – Item Analysis – Standardizing a Test – Elementary Statistics – Measures of Central Tendency: Mean, Median and Mode – Measures of Variability – Mean, Standard and Quartile Deviation, Correlation Co-Efficient, Rank Order and Product Moment Correlation – Graphical Representation of Data: Bar and Pie Diagrams, Histogram, Frequency Polygon – Cumulative Frequency Curve, Ogive, Percentile Ranks, Normal Probability Curve, Kurtosis, Skewness.

**Unit-VII : Diagnostic Testing & Remedial Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Mathematics. Planning – Development – Remedial Instruction.

**Unit-VIII : Professional Development Of Mathematics Teachers**

Characteristics of Mathematics Teacher – Competency, Commitment and Performance Areas of Teacher – Professional Development of Mathematics Teacher – Teacher Evaluation – Students, Peer and Authority.

Types of In-service Programme for Mathematics Teachers; Role of Mathematics Teachers Association; Journals and Other Resource Materials in Mathematics Education; Professional Growth - Participation in Conferences/Seminars/Workshops.

**Unit-IX : Teaching Gifted And Backward Learners In Mathematics**

Individual Differences In Mathematics – Causes for Slow Learning in Mathematics and Remedial Measures for the Backward – Identification of the Gifted – Enrichment Programmes for The Gifted children.

**Unit-X : Recent Developments In Mathematics Education**

Flipped Learning – Spaced Learning – Spaced Repetition in Mathematics, Gamification – Simulations, Team – Based Learning, Block teaching, Jigsaw technique, Virtual Classroom, Blended learning, Hybrid Learning

**III. PRACTICAL WORK**

- 1) Organizations of Mathematics Quiz in the classroom
- 2) Observing Mathematics Laboratory in the schools and drafting a plan for Mathematics Laboratory
- 3) Preparation of Slides, Transparencies and A – V aids for some of the topics in mathematics
- 4) Practicing Recreational Activities like Games, Puzzles and Riddles in Mathematics.
- 5) Preparing a report on the places having significance in mathematics for Field trip.

**IV. REFERENCE BOOKS**

- 1) Ball, W.N.R., 1893. A Short History of Mathematics, Mac.Milan, New York.
- 2) Baur, George, R.R. George, Linda Olsen (1976) *Helping Children Learning Mathematics*, Cunnings Publishing Company, Inc.
- 3) Bell, E.T., 1952. *Mathematics*, Queen and Servant of Sciences, McGraw Hill, New York.
- 4) Sudhir Kumar, 1993. *The Teaching of Mathematics*, Anmol Publications, New Delhi.
- 5) Sidhu, Kulbra, 1987. *The Teaching of Mathematics*, Sterling Publishers, New Delhi.
- 6) Jared Keengve, Grace Onchwari, James N. Oigara, 2014. Promoting Active learning through Flipped Classroom model, US of America.

**PC II-4: PEDAGOGY OF PHYSICAL SCIENCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The Student – Teacher

- acquires knowledge of the instructional materials and media, enrichment program for gifted and programs for backward learners in physical science
- understands the technology of teaching physical science and the use of audio visual aids, the special qualities professional growth of physical science teacher
- applies knowledge in acquiring and understanding the techniques of organizing different co – curricular activities in physical science
- develops the skills in the remedial instruction in the teaching of physical science
- develops interest in planning their lessons and presenting them effectively
- develops a positive attitude in the recent developments in physical science education

**II. COURSE OUTLINE****Unit-I : Planning for Instruction**

Stating Instructional Objectives, Identifying Learning Experiences, Appropriate Strategies, Teaching Aids; Lesson Plans – Preparation of Lesson Plans.

**Unit-II : Instructional Materials and Media**

Classification of Audio Visual Aids (Projected and Non-Projected) – Their Importance – Principles and Use of Hardware: Film Strip cum Slide Projector, Overhead Projector, Motion. Picture Projector, Radio, TV, CCTV, Tape Recorder, Principles and Use of Software: Objects, Specimens, Slides, Transparencies, CD, Audio and Video Tapes – Educational Broadcasts: Radio and T.V. Lessons – Programmed Learning – Power Point – Use of Internet in Teaching.

**Unit-III : Learning Resources**

Textbooks – Audio – Visual Multimedia – Selection and Designing; Using Community Resources for Physical science Learning, Pooling of Learning Resources In School Complex/Block/District Level.

Work Books, Teacher Guidelibrary: Classification of Books Based on Themes, Role of Magazine, Journals, Periodicals, Encyclopedia, Newspaper and Websites.

**Unit-IV : Activities of Physical Sciences**

Co-Curricular Activities: Organization of Science Club, Science Exhibitions and Fairs, Fieldtrips and Excursions. Conducting Physical Science Olympiads, Physical Science Quiz – Importance, Organizations Physical Science Museum, Summer Programmes, Correspondence Course, Recreational Activities—Games, Puzzles and Riddles in Physical science, and Inventiveness in Physical science.



**Unit-V : Physical Science Laboratory and Organization**

A) Planning of Science Laboratory – Structure and Design – Location and Accommodation Amenities – Ventilation, Lighting, Water Supply, Fuel etc. – Preparation of Indents.

B) Organization of Laboratory Work, Individual Work and Group Work.

C) Discipline in the Laboratory – Rules for Pupils and Teacher – Supervision and Guidance.

D) Accidents in the Laboratory – Rules for Pupils and Teacher – Supervision and Guidance.

E) Accidents in Laboratory – First Aids.

**Unit-VI : Evaluation of Physical Science**

Tests and Its Types – Achievement Tests – Qualities of a Good Test – Principles of Test Construction – Blue Print and Question Paper – Item Analysis – Standardizing a Test – Elementary Statistics – Measures of Central Tendency: Mean, Median and Mode – Measures of Variability – Mean, Standard and Quartile Deviation, Correlation Co-efficient, Rank Order and Product Moment Correlation – Graphical Representation of Data: Bar and Pie Diagrams, Histogram, Frequency Polygon – Cumulative Frequency Curve, Ogive, Percentile Ranks, Normal Probability Curve, Kurtosis, Skewness.

**Unit-VII : Diagnostic Testing & Remedial Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Physical Science. Planning – Development – Remedial Instruction.

**Unit-VIII : Professional Development of Physical Science Teachers**

Characteristics of Science Teacher – Competency, Commitment And Performance Areas of Teacher – Professional Development of Science Teacher – Teacher Evaluation – Students, Peer And Authority.

Types of Inservice Programme for Physical science Teachers; Role of Physical science Teachers Association; Journals and Other Resource Materials in Physical science Education; Professional Growth—Participation in Conferences/Seminars/Workshops.

**Unit-IX : Teaching Gifted and Backward Learners in Physical Science**

Individual Differences in Physical Science– Causes for Slow Learning in Physical Science and Remedial Measures for the Backward – Identification of the Gifted and Enrichment Programmes for the Gifted.

**Unit-X :: Recent Developments in Physical Science Education**

Flipped Learning – Spaced Learning – Spaced Repetition In Physical science, Gamification – Simulations, Team – Based Learning, Block teaching, Jigsaw technique, Virtual Classroom, Blended learning, Hybrid Learning In Physical science.

**III. PRACTICAL WORK**

- 1) Organizations of Physical Science Quiz in the Classroom.
- 2) Observing Physical science Laboratory in the schools and drafting a plan for Physical science Laboratory.
- 3) Preparation of Slides, Transparencies and A – v aids for some of the topics in physical science.
- 4) Practicing Recreational Activities like Games, Puzzles and Riddles in Physical science.
- 5) Preparing a report on the places having significance in physical science for Field trip.

**IV. REFERENCE BOOKS**

- 1) Boulind, H.E., 1972. The Teaching of Physics in Tropical Secondary School, Oxford University, London.
- 2) Dale E.D.,1970. Audio Visual Methods Teching, Dryden Press, New York.
- 3) of Science in Our School,Chand& Co. P. Ltd., New Delhi.
- 4) Newbur, N.F.,1983. Teaching of Physical science in Tropical Secondary Schools, Oxford Universtiy Press, London.
- 5) Sharma, R.C., 1976. Modern Science Teaching, DhanpetRai& Sons, Delhi.

**PC II-5: PEDAGOGY OF BIOLOGICAL SCIENCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquiresknowledge about the teaching and learning of biological science.
- understands the
  - planning for instruction.
  - instructional materials and learning resources of biological science at secondary level.
  - organisation and maintenance of biological science laboratory.
  - co curricular activities in biological science.
  - concept and techniques of construction of achievement test.
  - professional development of science teacher.
  - resent developments in biological science
- develops skills in
  - preparation of lesson plan for teaching biological science.
  - preparing/selecting and using appropriate instructional materials in teaching biological science.
  - preparing and using different techniques of evaluation of pupils progress.

- organisation of biological science laboratory.
- identifying and treating backward and gifted learner in learning biological science.

## **II. COURSE OUTLINE**

### **Unit-I : Planning for Instruction**

Identification and organisation of concepts for teaching biological science – Instructional materials required for planning teaching biological science – Preparation of lesson plan for teaching biological science at secondary level.

### **Unit-II : Instructional Materials**

Need and importance of instructional materials – Classification of teaching aids and its uses – Preparation of various teaching aids.

### **Unit-III : Learning Resources in Biological Science**

Biological science text book – Functions of science text book – Characteristics of a good biological science text book – Use of ICT experiences in learning biological science – Using community resources for learning biological science.

### **Unit-IV : Co-curricular Activities in Biological Science**

Objectives, organization and activities of Science Club – Organization and purpose of Science Fair – Organization of Science Exhibition and Field Trip – Organization and maintenance of School Garden and Nature Calendar – Collection, preservation and display of Museum Specimen – Maintenance of Aquarium, and Terrarium.

### **Unit-V : Science Laboratory and its Organisation**

Organization, maintenance and safety measures of biological science laboratory.

### **Unit-VI : Evaluation in Biological Science**

Concept and techniques of achievement test – Construction, administration, and characteristics of achievement test – Scoring various kinds of achievement tests – Objects based evaluation.

### **Unit-VII : Diagnostic Testing and Remedial Teaching**

Meaning and purpose of diagnostic testing – Distinguishing diagnostic tests from the achievement test – Construction and administration of diagnostic testing – Meaning, purpose and importance of remedial teaching in biological science.

### **Unit-VIII : Professional Development of Science Teacher**

Characteristics of biology teacher – Professional equipment training of teacher's – Role of NCERT and allied agencies for the professional development of science teachers.

### **Unit-IX : Teaching Gifted and Backward Learners**

Identification, diagnosis and educational measures of gifted learner and backward learner in learning biological Science.

### **Unit-X : Recent Developments in Biological Sciences**

Biology in the modern world – Bio Chemistry – Bio Physics – Genetic engineering – Ecology and Conservation – Environmental education – Science education.

**III. PRACTICAL WORK**

- 1) Collecting shells, feathers, nests, eggs etc.
- 2) Collecting and preserving museum specimens and insects.
- 3) Prepare an e – question bank on any one unit at secondary school level.
- 4) Identify the gifted and backward learner of your class room and prepare a report regarding educational measures taken by you.
- 5) Prepare a report of recent developments in biological science.

**IV. REFERENCE BOOKS**

- 1) Ameeta, P.,2005. Methods of Teaching Biological Science. Hydrerabad: Neelkamal Publications Prt.Ltd.
- 2) Bhatt, B.D., Sharma, S.R., 1996. Methods of Teaching Science. Delhi: Kanishka Publishing House.
- 3) Choudhary, S., 2004. Teaching of Biology. New Delhi: APH Publishing Corporation.
- 4) Cronbach, L.J. & Snow, R.E., 1977. Aptitude and Instructional Methods. New York: Irvington Publishers.
- 5) Das, R.C., 1985. Science Teaching in Schools. New Delhi: Sterling Publishers.
- 6) Deepak Dayal, Richa Bhatt and Biswajit Ray,2007. Modern Methods of Teaching Biology. New Delhi: APH Publishing Corporation.
- 7) Krishanamacharyulu,V., 2011. Science Education. Hyderabad: Neelkamal Publications Pvt.Ltd.,.
- 8) Lakshmi Gadde, Bhuvanewara, 2003. Methods of Teaching Life Sciences. New Delhi: Discovery Publishers.
- 9) Malhotra,V., 2007. Encyclopaedia of Modern Methods of Teaching Science. New Delhi: Crescent Publishing Corporation.
- 10) Mujibul Hasan Siddiqui,2007. Teaching of Science. New Delhi: APH Publishing Corporation.
- 11) Narendera Vaidya, 1999. Science Teaching for the 21<sup>st</sup> century. New Delhi: Deep&Deep Publication.
- 12) NCERT, 1996. Science for Classes IX and X, New Delhi: NCERT Publications.
- 13) NCERT, 2006. National Curriculum Framework for School Education 2005. New Delhi: NCERT Publications.
- 14) Rajammal,K.,2009. Methods of Teaching Biological Science. Chennai: Santha Publication,
- 15) Rajput, J.S. (ed.) 2002. Experiences in School Education. New Delhi: NCERT Publications.
- 16) Schmeck, R.R., 1998. Learning Strategies and Learning Styles. New York: Plenum Press.
- 17) Sharma,R.C.,2002. Modern Science Teaching. New Delhi: Dhanpat Rai Publishing Company(P) Ltd.
- 18) Sood, J.K., 1985. Teaching Life Sciences. Delhi: Kohli Publications.

- 19) Taylor, D.J. and Others, 2004. Biological Science. London: Cambridge university press.
- 20) Trowbridge, L.W. & Bybee, R.W., 1996. Teaching Secondary School Science.(6thed.). Englewood Cliffs. NJ: PrenticeHall Inc.

### **PC II-6: PEDAGOGY OF SOCIAL SCIENCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

#### **I. OBJECTIVES**

The student teacher

- acquires the knowledge of the concepts, terms and teaching methods in social studies.
- understands the planning for instruction and materials in social studies.
- understands the learning sources and activities to the study of social studies
- develops skill by using various types of teaching aids relevant to social studies.
- develops interest to know the achievements in social studies.
- develops positive attitude towards the cultural heritage of India through teaching of social studies

#### **II. COURSE OUTLINE**

##### **Unit-I : Planning for Instruction**

Instructional objectives and specifications – Meaning – Lesson planning – Need and importance – Principles – Steps in preparing lesson plan – Lesson plan discussion.

##### **Unit-II : Materials and Media for Teaching**

Audio – Visual aids – Classification of teaching aids – Multimedia approach – Blackboard – Charts – Maps – Pictures – Models – Radio – Television – Need and importance function.

##### **Unit-III : Learning Resources**

Textbook – Importance – Objectives of social studies textbook – Library – equipments – Functions – Museum.

##### **Unit-IV : Co-Curricular Activities**

Method of utilizing community resources – Field trip – Kinds of trips – Characteristics – Planning – Educational tour.

##### **Unit-V : Laboratory**

Social studies laboratory – Equipments – Maintenance – Functions – Improvising good learning environment.

**Unit–VI : Evaluation**

Concept and process of evaluation – Evaluation and testing – Achievement test – Characteristics of a good test – Construction of achievement test – Interpretation of test scores.

**Unit–VII : Diagnostic Test and Remedial Teaching**

Diagnostic test – Aptitude test – Remedial teaching – Need and importance.

**Unit–VIII : Professional Development of Teacher:**

The social studies teacher – Role – Essential qualities – Inservice programme.

**Unit–IX : Gifted and Backward Learner**

Teaching gifted and backward learner – Identification – Educational programme for their enrichment.

**Unit–X : Recent Developments in Teaching social Studies**

Teaching controversial issues – Teaching current affairs.

**III. PRACTICAL WORK**

- 1) A write up on current national problems
- 2) A project report about the significance of any one of the temple in Tamilnadu.
- 3) Write a report on the controversial issues in South India.
- 4) Prepare a report on the researches recently conducted in Social Studies.
- 5) Collect the primary and secondary sources in the Chola period.

**IV. REFERENCE BOOKS**

- 1) Aggarwal, J.C. Teaching of political science, vikas publishing house Pvt., Ltd., 5, Ansari Road, New Delhi, 1987.
- 2) Sharama, S.P., T.P.Lamba, C.R.Saxeno and V.Murthy, Teaching of Civics, NaiSarak, PublishingHouse Pvt., Ltd., Delhi 1988.
- 3) Kochhar.S.K., The teaching of social studies, Sterling Publishers Pvt., Limited, New Delhi, 2005.
- 4) Dash.B.N. & Rahakrishna Murthy, Methods of Teaching Social Studies, Neelkamal Publications Pvt., Ltd., New Delhi 2012.

**PC II–7: PEDAGOGY OF COMPUTER SCIENCE – [PART–2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**II.OBJECTIVES**

The Student Teacher

- acquires Knowledge of the Instructional Materials and Media, enrichment program for Gifted and programs for Backward Learners in Computer science
- understands the Technology of Teaching Computer science and the Use of Audio Visual Aids, The Special Qualities Professional Growth of Computer science Teacher

- applies Knowledge in Acquiring and Understanding the Techniques of Organizing different Co-Curricular Activities in Computer science
- develops the Skills in the Remedial Instruction in the Teaching of Computer science
- develops Interest in Planning their Lessons and Presenting Them Effectively
- develops a Positive Attitude Recent Developments in Computer science Education

## **II. COURSE OUTLINE**

### **Unit-I : Learning Resources**

Stating Instructional Objectives, Identifying Learning Experiences, Appropriate Strategies, Teaching Aids; Lesson Plans – Preparation of Lesson Plans – Unit plans.

### **Unit-II : Instructional Materials and Media**

Classification of Audio Visual Aids (Projected and Non – Projected) – Their Importance – Principles and Use of Hardware: Film Strip cum Slide Projector, Overhead Projector, and Motion. Radio, TV, CCTV, Tape Recorder, Principles and Use of Software: Objects, Slides, Transparencies, CD, Audio and Video Tapes – Educational Broadcasts: Radio and T.V. Power Point – Use of Internet in Teaching.

### **Unit-III : Learning Resources**

Maths On line learning – Online worksheets – Graphic organizers – Library of videos on a variety of maths – Infographics – Work Books, library: Classification of Books Based on Themes, Role of Magazine, Journals, Periodicals, Encyclopedia, Newspaper And Websites.

### **Unit-IV : Activities of Computer Sciences**

Co-Curricular Activities: Organization of Computer science Club, Computer science Exhibitions and Fairs, Fieldtrips and Excursions. Conducting Computer science Olympiads, Computer science Quiz – Importance, Organising Computer science Museum, Summer Programmes, Correspondence Course, Recreational Activities—Games, Puzzles And Riddles In Computer science.

### **Unit-V : Computer Science Laboratory and Organization**

Importance of Computer science Laboratory – Planning of Computer science Laboratory – Components of Computer science Laboratory – Structure and Design – Organization of Laboratory Work, Individual Work and Group Work.

### **Unit-VI : Evaluation of Computer Science**

Tests and its Types – Achievement Tests – Qualities of a Good Test – – Principles of Test Construction – Blue Print and Question Paper – Item Analysis – Standardizing a Test – Elementary Statistics – Measures of Central Tendency: Mean, Median and Mode – Measures of Variability – Mean, Standard and Quartile Deviation, Correlation Co-Efficient, Rank Order and Product Moment Correlation – Graphical Representation of Data: Bar and Pie Diagrams, Histogram, Frequency Polygon – Cumulative Frequency Curve, Ogive, Percentile Ranks, Normal Probability Curve, Kurtosis, Skewness.

**Unit-VII : Diagnostic Testing & Remedial Teaching**

Diagnosis – Principle of Diagnosis – Steps – Importance – Identification of Students' Difficulties in Learning Computer science. Planning – Development – Remedial Instruction.

**Unit-VIII : Professional Development of Computer Science Teachers**

Characteristics of Computer science Teacher – Competency, Commitment and Performance Areas of Teacher – Professional Development of Computer science Teacher – Teacher Evaluation – Students, Peer and Authority.

Types of In-service Programme for Computer science Teachers; Role of Computer science Teachers Association; Journals And Other Resource Materials in Computer science Education; Professional Growth – Participation in Conferences/Seminars/Workshops.

**Unit-IX : Teaching Gifted and Backward Learners in Computer Science**

Individual Differences In Computer science – Causes for Slow Learning in Computer science and Remedial Measures for the Backward – Identification of the Gifted – Enrichment Programmes for The Gifted children.

**Unit-X : Recent Developments in Computer Science Education**

Flipped Learning – Spaced Learning – Spaced Repetition In Computer science, Gamification – Simulations, Team – Based Learning, Block teaching, Jigsaw technique, Virtual Classroom, Blended learning, Hybrid Learning.

**III. PRACTICAL WORK**

- 1) Organizations of Computer science Quiz in the classroom
- 2) Observing Computer science Laboratory in the schools and drafting a plan for Computer science Laboratory
- 3) Preparation of Slides, Transparencies and A – V aids for some of the topics in Computer science
- 4) Practicing Recreational Activities like Games, Puzzles and Riddles in Computer science.
- 5) Preparing a report on the places having significance in Computer science for Field trip.

**IV. REFERENCE BOOKS**

- 1) Rao, P.V.S.,1981. Computer Programming, TMH, Delhi.
- 2) Roger Humt Hon Shelley,1975. Computers and Common Sense, Prentic Hall (India) Delhi.
- 3) Shied, Introduction to Computer Science, SCHAVM.
- 4) StanelyPogrow, Education in the Compute Age, Sage Publication, Delhi, 1993.
- 5) Steeven M. Rass, Basic Programmking for Education, Pentic Hall, New York, 1990.
- 6) Jared Keengve, Grace Onchwari,James.N.Oigara,2014. Promoting Active learning through Flipped Classroom model, US of America.



**PC II-8: PEDAGOGY OF ECONOMICS – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

- acquires the knowledge of modern approaches in teaching and its support system.
- develops understanding of the professional development for a teacher of Economics.
- applies the principles of learning through curricular and co-curricular activities.
- develops the skill of using suitable instructional materials.

**II. COURSE OUTLINE****Unit-I : Modern approaches in Economics**

Modern approaches – Seminar – Symposium – Panel Discussion – Team teaching – Programmed learning – Debate – Tutorials.

**Unit-II :System approaches in Economics**

Economics teaching – Classroom management – System approach to Economics teaching – Significance – Merits and Demerits.

**Unit-III : Interaction Analysis**

Interaction analysis – Flander’s system of interaction analysis – Recording classroom events – ground rules of observation – Construction of interaction matrix – Advantages and Limitations.

**Unit-IV : Teacher Support Systems**

Economics department in school – Maintaining records – Economics teacher diary – Record and register of school materials and equipments – Co-operative Stores – Economics Labs – Economics room.

**Unit-V :Co-Curricular activities in Economics Teaching**

Objectives – Principles – Need and Importance – Role in organization of some co-curricular activities in teaching Economics – ATM, Bank form filling, cheque filling – Economics club – Debate – Field trip, Model Village Survey.

**Unit-VI :Instructional materials**

Meaning – Concept – Text book – Periodicals – Journals – Reference Books – Resource materials – Technical documents – Surveys – Types – Preparation and uses.

**Unit-VII : Computerization in Economics**

Introduction – Internet – Teaching through computer – significance of internet – E mail – Significance – Internet banking – Uses – Video conferencing.

**Unit–VIII : Professional Development**

Economics teacher – Pre service and in service programmers – Qualities of a Economics teacher – Responsibilities of Economics teacher – Problems faced by Economics teacher.

Micro teaching – Meaning – Definition – Concepts – Skill development in teaching – Significance of Teacher training.

**Unit–IX : Research in Economics**

Research in Economics Education – Identifying problems in teaching of economics – Techniques of conducting and evaluating research in Economics education.

**Unit–X : Guidance Services for Economics Students**

Objectives – Educational and Vocational services – Guidance services in school – Individual inventory – Interaction services – Role of Economics teacher in Guidance.

**III. PRACTICAL WORK**

- 1) Preparation of programmed learning materials in XIstandard economics subjects.
- 2) Visit to Rural Development Department.
- 3) Group discussion on marketing.
- 4) Preparing a report of different activities of Economics club.
- 5) Visit to Agricultural Economic Department.

**IV. REFERENCES**

- 1) Dr. M. Harikrishnan, 2006. *“Methods of Teaching Economics”*. Thirumavalavan Publications,Chidambaram.
- 2) Dr. Radha, 2014. *“Value Education”*, Prasanna Publishers and Distributors, Chennai.
- 3) Seema Sharma, 2004. *“Modern Teaching of Economics”*, Anmol Publications Pvt. Ltd.,NewDelhi.
- 4) Keith Lumsden, 1967. *“New Development in the Teaching of Economics”*, Prentice Hall the Engle Wood, New Jercey.
- 5) Knopf and Keynon, 1960. *“The Teaching of Elementary Economics”*, James and Status Holt Rinehart and Wiston, New York.
- 6) Amita Yadav, The Teaching of Economics.
- 7) Vakil, Teaching of Economics.
- 8) Journal of Economics Education.
- 9) Vendanayagam, Hand Book for College teachers.

**PC II-9: PEDAGOGY OF COMMERCE – [PART-2]**

Total Marks: 100

Credits:4

Internal Assessment: 25

Contact Hours: 4 Hours per Week

External Assessment: 75

**I. OBJECTIVES**

The student teacher

- acquires knowledge of the terms and concepts regarding the various methods and techniques of teaching,
- understands the different types of curriculum, methods of teaching and technology of teaching.
- applies the knowledge in analyzing, selecting and adopting the suitable methods, techniques and for the purpose of teaching,
- develops skills in preparing curriculum, and using the suitable techniques in test construction.
- develops interest in knowing the recent development in the teaching methodology, and technological developments, and
- develops a desirable positive attitude towards the teaching of commerce.

**II. COURSE OUTLINE****Unit-I : Modern Approach in Commerce**

Modern approach – socialized recitation methods (Discussion methods) informal – seminar, symposium, workshop technique, panel discussion, individualized instruction methods – role playing, individual assignment – team teaching.

**Unit-II : Systems – Approach**

Commerce teaching and classroom management – systems approach to the commerce teaching – significance, merits and demerits.

**Unit-III : Interaction Analysis**

Class room interaction analysis – classroom climate types of teacher based on leadership styles – autocratic, Demonstration and laissez faire – significance.

**Unit-IV :Teacher Support System**

Commerce department in school system – commerce lab – teacher dairy – Maintenance – record and registers to be maintained equipments – essentials and desirable.

**Unit-V : Co-Curricular Activities**

How to handling ATM, Form filling – Objectives, principles, need and importance role in organization of some co – curricular activities in teaching of commerce – commerce club, debate, field trip, Banking activities.

**Unit-VI : Instructional Materials**

Meaning – concept – need and importance – qualities of a good text book, criteria for text book evaluation role of library – periodicals – journals – reference

books – resource materials technical documents – surveys – types – preparation and uses.

#### **Unit–VII : Computerization in Commerce**

Tally system in commerce – E-trade, E-commerce, E-resources in commerce and accountancy.

#### **Unit–VIII : Professional Development**

Commerce teacher traits of a good commerce teacher – qualities of a commerce teacher – professional qualities problem faced by the commerce teacher in the digital era. Role of commerce teacher in school society.

#### **Unit–IX : Guidance Services for Commerce Student**

Guidance programme for objectives – function – educational and vocational guidance services in school – individual inventory service, information service, counseling service, placement service, follow up service – role of commerce teacher in guidance.

#### **Unit–X : Research in Commerce Education**

Research on commerce and accountancy education – computer in commerce and accountancy – Use of ICT and modern technology in commerce Research. Practical role of commerce teacher in school society – duties and responsibilities.

### **III. PRACTICAL WORK**

- 1) Visit to Co-operative Bank
- 2) Visit to Credit societies
- 3) Trip to nationalized banks
- 4) Visit to share trading centre
- 5) Prepare a list of online trading activities in your area

### **IV. REFERENCE BOOKS**

- 1) Kochhar, S.K. Methods and Techniques of Teaching, Sterling Publishers Pvt. Ltd., New Delhi.
- 2) Passi, B.K., Becoming better teacher & micro teaching approaches, Sahityamudrasolays, Ahanadabad, 1976.
- 3) Samphet.al., Introduction to Education Technology, Sterling Publishers, New Delhi, 1990.
- 4) Flanders A. Ned, Analyzing Teacher Behavior, Addison– Wesley publishing company, USA, 1979.
- 5) Ornistein, Allen C., and et al. Curriculum Foundation, Principles and Issues Prentice Hall, Englewood Cliffs New Jersey, USA, 1988.
- 6) Deceee John, P. and et al., The Psychology of Learning and Instruction, prentice Hall of India, New Delhi.
- 7) Association of Indian Universities, New Technology in Higher Education, Edited by Shah Sy., New Delhi, 1986.

- 8) Tonne, Pophan and Freeman, Methods of Teaching Business Subjects, McGraw Hill, 1965.
- 9) Tarachand, Principles of Teaching, Anmol Publishing, New Delhi, 1990.
- 10) Leu, M. Carey, Measuring and Evaluating School Learning, Allyn and Bacon Inc. USA, 1988.

### **TEA-7: ENRICHING LEARNING THROUGH ICT**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

#### **I. OBJECTIVES**

The student teacher

- acquires the concept, knowledge of ICT in the context of learning
- develops familiarity with the basic usage of computer in learning
- applies the tools and techniques of learning through ICT
- develops the skills of hands on experience with computer for learning

#### **II. COURSE OUTLINE**

##### **Unit-I : Importance of ICT in Education**

Information and communication Technology – concept – Nature Scope in – Construction of knowledge – Sources of audio – visual media and computer.

##### **Unit-II : Learning through Audio – Visual Media**

Use of audio – Media – Patterns – Use of TV/Recordings – Use of other Media – Printed – Types – Sources.

##### **Unit-III : Learning through Computers**

Utilizing Computers in schools – Presentation – Power Point – Excel – use of Browsing resources – Downloading relevant materials.

##### **Unit-IV : Learning through Technology – based resources**

Professional self – development – image of search engines – generation of Blogs – Collaborative learning environment.

##### **Unit-V : ICT integrated Learning**

Innovative usage of ICT – Case studies – environment for Learning issues in interest usage – reliability of information – Social net working – downsides – Plagiarism.

#### **III. REFERENCES**

- 1) Bruner, J.S., 1963. The Process of Education, New York: Vintage Books.
- 2) Dececon, John, P., (Ed.) 1964. Educational Technology, New York, Holt.
- 3) Kulkarni, S.S., 1986. Introduction of Educational Technology, New Delhi: Oxford & IBH.
- 4) Kumar, K.L., 1997. Educational Technology, New Delhi: New Age International (P)Ltd

- 5) Rajasekar, S., 2010. Computer in Education, Neelkamal Publications Pvt. Ltd., Hyderabad.
- 6) Rajasekar, S., 2005. Computer Education and Educational Computing, Neelkamal Publishing Pvt. Ltd., Hyderabad.
- 7) Sharma, Sita Ram & A.L. Vohra, 1993. Encyclopedia of Educational Technology, Anmol Publications
- 8) Stephen, M.A. and Stanely, R., 1985. Computer Based Instruction: Methods and Development. NJ: Prentice Hall.
- 9) Yelland, Nicole, et.al.(Ed.) 2008. Rethinking Education with ICT. Sense Publishers.

### **TEA-8: HEALTH AND PHYSICAL EDUCATION – [PART-2]**

Total Marks: 25

Credits:1

Internal Assessment: 25

Contact Hours: 1 Hours per Week

#### **I. OBJECTIVES**

The student – teacher

- know the needs and interests, physical, emotional and mental changes during
- understands the communicable and non – communicable diseases and its sources.
- develop positive attitude towards nutritional needs of human body and its imparts.
- develops the skill of games, sports, sports ethics, motivation, regulations.
- develops the skill of following rules and regulations of sports and fitness.

#### **II. COURSE OUTLINE**

##### **Unit-I : Human Body**

Human body; Growth and development of children at different ages, their needs and interests, psycho – social development; Physical, emotional and mental changes during adolescence; Concept of body image; Parent – peer – adolescent relationship; Sexual abuse; Myths and misconceptions regarding growing-up; Management of stress and strain and life skills

##### **Unit-II : Dietary Requirements of Human Body**

Dietary requirements of human body with special emphasis on the nutritional needs according to age, sex, occupation, pregnancy and also with reference to sports – personship; Need for diet planning; Food and water; Safety and laws.

##### **Unit-III : Occupational Health**

Occupational health hazards and its prevention; Commonly – abused substance and drugs and ways of prevention and inhabitation Fundamentals skills of games and sports; Sports for recreation and competition; Rules and regulations of sports; sports ethics; sports awards and scholarships, sports – personship Games and Sports-athletics, games, rhythmic activities and gymnastics

Development of physical fitness; Postures; Importance of relaxation; Fitness tests; Resources and services for games and sports.

### III. REFERENCES

- 1) Dhanajoy, S. & Seema, K., 2007. Lesson Planning: Teaching Methods and Class Management in Physical Education, New delhi : Khal Sahitya Kendra.
- 2) Nash, T.N. 2006. Health and Physical Education, Hyderabad: Nilkamal Publishers.
- 3) Prasad, Y.V., 2006. Method of Teaching Physical Education, New Delhi: Discovery Publishing house.
- 4) Mangal, S.K., 2005. Health and Physical Education, Ludhiyana: Tandon Publication book Market.
- 5) Kanele, B.S. & Kumar, C.P., 1996. Text Book on Health and Physical Education, Ludhiyana, Kalyana Publishers.
- 6) Reema, K., 1996. Physical fitness, New Delhi: Khel Sahitya Sports Publication.
- 7) Ramachandran, L.T. & Dharmalingam, 1993. Health Education A New approach New Delhi, Vikas Publishers Ltd.
- 8) Erikson, O.B., 1990. Sports Medicine, Health and Medication, Enfield: Guninness Publishing Road.
- 9) Sangral, K., 1977. Methods in Physical Education, Ludhiyana, Prakash Brothers.

### TEA-9: ARTS AND AESTHETICS – [PART-2]

Total Marks: 25

Credits: 1

Internal Assessment: 25

Contact Hours: 1 Hours per Week

#### I. OBJECTIVES

- to enrich their aesthetics and arts experience;
- to strengthen their abilities to appreciate and create various forms of visual arts work aesthetically and critically;
- to see and to solve problems creatively through imaginative thinking and so encourage individuality and enterprise
- to value the confidence and self – esteem through valuing self expression
- to foster a sense of excellence in and appreciation of the arts in local, regional, national and global contexts, both past and present

#### II. COURSE OUTLINE

##### Unit-I

Knowledge of Indian traditions – festivals – traditional arts and crafts – hindu temples – setting stage for performance – developing aesthetic sensibility in costumes and decoration.

**Unit-II**

Cultural heritage of India and its relevance in education – integrate arts forms in education.

**Unit-III**

Different kinds of instruments – string – air – drums – patriotic songs – motivating students for performance and participation.

**III. REFERENCES**

- 1) Shymala Gupta, 1931. Art Beauty and creativity, DK printword private limited, New Delhi.
- 2) Dharmaraj, 2004. Indian History Vo.4, 10C, Publications, Sivakasi.
- 3) Marshall Cavendish ( 1984) Home craft Published by MC Books Ltd., London.
- 4) Dr.P.Swaminathan Thiruthalathirumurait Thiratu, Thiruvaduthurai Athinam, 2013.
- 5) K.Somasundaram Ulakelam, Thiruvaduthuraim Aatheenam, 2012.
- 6) Indian Heritage, <http://www.indian-heritage.org>1.
- 7) Indian Culture and Heritage Published by National Institute of open Schooling.

**TEA-10: COMMUNITY CAMP/EDUCATIONAL TOUR**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The Student Teacher

- acquires Knowledge about the planning, organizing, financing, executing and evaluating the tour
- understands the importance of direct experience gained through Educational tour
- applies the Knowledge gained in the Educational tour in the relevant situations
- develop Skills In organizing and executing Educational tours

**II. COURSE OUTLINE****Unit-I : Camp**

Camp – History of camp – Need for the camp – Developmental benefits to students – Types of Camp – Preparing for a Camp – Community Resources for Camp.

**Unit-II :Camp Activities**

Camp activities – Self – awareness activities – Self – esteem activities – Social activities – Peace activities – Team building – Nature games – Environmental activities – Internet activities – Recreational activities.



**Unit-III : Educational Tour**

Objectivities – Need and Importance of Educational tour – Learning experiences – Need for observing and recording.

**Unit-IV : Planning for Educational Tour**

Planning for Educational tour – Preliminary enquiry , Permission to be sought, Budgeting , Mapping of the places visited, Blue print of the places of Visit, Observation manual, Tour report – Execution of educational tour – Organising for Educational tour – Availing community resources – – Recreational activities for Educational tour.

**Unit-V : Precautions in Educational Tour**

Health and safety measures – Role of Teacher – Preventive measures that has to be followed – evaluating the tour – Educational implications.

**III. REFERENCES**

- 1) Kumar, K.L., Educational Technology, New age International Publishers, New Delhi, 1996.
- 2) Mohanty, J., Educational Broadcasting: Radio and Television: Sterling Publishers, 1994.
- 3) Sampath, K. and Panneerselvam, A., Introduction to Educational Technology, New Delhi, Sterling Publishers, Pvt. Ltd, 1981.

**TEA-11: PSYCHOLOGICAL TESTING AND CASE STUDY**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The Student Teacher

- acquires knowledge of the concepts and terms of educational psychology.
- understands the different aspects of learners and learning.
- understands the procedures in psychological testing.
- familiarize in performing experiments in various aspects of educational psychology.
- develops interest in collecting data and interpretation of scores.

**II. COURSE OUTLINE****Unit-I : Psychological Testing**

Psychological laboratory – Its necessary and management in teacher training institutions – Psychological Testing – Meaning – Need importance – Uses.

**Unit-II : Attention, Concept Formation, Memory, Attitude**

Attention – Meaning – Significance – Chief characteristics – Types of attention – Determinants – Securing students attraction – Distraction.

Concept Formation – Meaning – Types of concepts – Kinds of concept – Important characteristics – Stages involved in formation of concepts – Concept of children and adults – Teaching of concepts – Measurement.

Memory – Meaning – Characteristics – Processes of memory – Learning storage, retention, retrieval, recognition – Short term and long term memory – Good methods of memorization – Measurement of memory.

Attitude – Meaning – Positive and negative attitude – Attitude scales.

### **Unit-III : Aptitude, Interest, Learning, Motivation**

Aptitude – Meaning – Characteristics of aptitude – Aptitude tests.

Interest – Meaning – Factors affecting interests – Types of interest – Social, recreational, personal and vocational – Interest inventories.

Learning – Meaning – Characteristics of learning – Transfer of training or learning – Meaning – Forms of transfer – The experimental paradigm.

Motivation – Meaning – Characteristics – Process – Functions – Motives and related concepts – Motive, need, drive, incentive – Goal – Motivational Tests.

### **Unit-IV : Intelligence, Personality**

Intelligence – Definitions – Nature – Types – Characteristics – Types of Intelligence – Measurement of intelligence – Classification of intelligent tests – Verbal, Non – Verbal and performance tests – Uses of intelligence tests.

Personality – Meaning – Characteristics – Factors influencing personality development – Physique, social, psychological – Classification – Assessment of personality.

### **Unit-V : Case Study**

Case Study – Meaning – Need Identification of Pupil – Diagnosis of the case – Statement of the Problem – Interview with the pupil – Collection of data – General Data – Family Environment – Health – Scholastic – Co-curricular activities – Personality traits – Educational and Vocational Interest – Social and emotional adjustment – Analysis and recommendations.

### **III. REFERENCES**

- 1) Chauhan, S.S., 'Advanced Educational Psychology' UBS Publishers Pvt. Ltd., New Delhi, 2007.
- 2) Kulshrestha, S.P., 'Educational Psychology', Vikas Publishing House Pvt. Ltd., 1988.
- 3) Dandapani, S., 'A Text Book of Advanced Educational Psychology', Ammol Publications Pvt. Ltd, New Delhi, 2000.
- 4) Crow, L.D. and Crow, A., Educational Psychology, Eurasia Pub. House, New Delhi, 1973.
- 5) Eillis, Educational Psychology, Affiliated East, West Press, New Delhi, 1965.
- 6) Guilford, J.P., Personality, McGraw Hill, New York, 1978.
- 7) Hilgard, F.R., Theory of Learning, Appleton Century, New York, 1958.

**TEA-12: PREPARATION OF INSTRUCTIONAL SOFTWARE**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The Student Teacher

- Acquires knowledge of the concepts forms principles and uses of Instructional Software.
- Develops understanding of the principles and procedures involved in the preparation of Instructional Software.
- Develops skills in using and manipulating the apparatus used as Instructional Software.
- Develops interest and appreciates various functions and uses of Instructional Software.

**II. COURSE OUTLINE****Unit-I : Instructional Software**

Definition of Instructional Software – Need and importance of Instructional Software.

**Unit-II : Classification of Non Projected aids and Projected Aids**

Description – Operation and uses of Non – Projected Aids – Graphics Aids: Charts Display Boards: Models Purpose of Model in Instruction; Materials for preparation of Models.

**Unit-III : Operation of Different Projected Aids**

Projected Aids: Projected Materials and Projectors: Power source for operation of projector: The illuminating System in the Projector; Epidiascope; Slide Projector; Filmstrips; The overhead projector; methods of preparing transparencies.

**Unit-IV : Educational Application of AV Aids**

Educational Broadcasts: The radio as aid to teaching; Radio Scriptwriting; Record player, Tape Recorder, Slide – Tape Presentation – 16mm projector uses – Educational television (ITV) Computer – Working – L.C.DProjector CCTV (Theoretical aspects: Loop cassette film projector).

**Unit-V : Technical Presentation**

Preparation of chart, album, Scrapbook, photography slide OHP Transparency – PowerPoint slides – Digital Flip Albums.

**III. REFERENCES**

- 1) Bose, C.R. and Ramachandran Educational Technology, New Delhi, NCERT.
- 2) Fred, John, Application and Operation of AV Equipment in Education, John Wiley.
- 3) Haas and Parker, Preparation and use of AV Aids. Prentice – Hall of India, 1955.
- 4) Kumar, K.L., Educational Technology, New Age International Publishers, New Delhi, 1996.
- 5) Mohanty, J., Educational Broadcasting: Radio and Television: Sterling Publishers, 1994.
- 6) Sampath, K. and Panneerselvam, A., Introduction to Educational Technology, New Delhi, Sterling Publishers Pvt. Ltd, 1981.

**SESA–4: ASSESSMENT FOR LEARNING – (PART–II)**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The student – teacher

- acquires knowledge about the assessment and evaluation
- understands the
  - data analysis for assessment and evaluation.
  - the need and importance of feedback and reporting.
  - the examination reforms in India and the future directions of examination reforms.
- applies knowledge to use wide range of assessment tools, and select and construct these appropriately.
- develops skill to evolve and adapt realistic, comprehensive and dynamic assessment procedures.

**II. COURSE OUTLINE****Unit–I : Data Analysis**

Statistical tools – Percentage, graphical representation, frequency distribution, central tendency, variation, normal distribution, percentile rank, correlation and their interpretation.

**Unit–II : Feedback and Reporting**

Feedback as an essential component of formative assessment – Use of assessment for feedback; For taking pedagogic decisions – Types of teacher feedback (written comments, oral) – Peer feedback – Place of marks, grades and qualitative descriptions – Purposes of reporting: To communicate Progress and profile of learner – Basis for further pedagogic decisions – Reporting a consolidated learner profile.

**Unit–III : Examination System: A Sociological and Psychological Analysis of the Related Issues**

Examination for gradation – Examination for social selection and placement – Impact of the prevailing examination system on student learning and stakeholders – Entrance tests and their influence on students and school system.

**Unit–IV :Examination Reform Efforts in India**

Examination reform efforts in India based on: Secondary Education Commission (1952-53) – Kothari Commission (1964-66) – National Policy on Education (1986) and Programme of Action (1992) – National Curriculum Framework (2005) developed for school education – National Focus Group Position Paper on Examination Reform.

**Unit–V : Directions for Examination Reform**

Introducing flexibility in examination – taking requirements – Improving quality and range of questions in exam papers including school – based credits –

Alternative modes of certification – Examination management – Role of ICT in examination.

### III. REFERENCE BOOKS

- 1) Bloom, Benjamin, S. et.al. (Ed.),1956. *Taxonomy of Educational Objectives – HandBook-I Cognitive Domain*.
- 2) Ebel and L.Robert., 1965. *Measuring Educational Achievement*, prentice hall international. Inc, USA.
- 3) Gronlund, Norman, E., 1965. *Measurement and Evaluation in Teaching*. New York:The Macmillan Co.
- 4) Gronlund, N.E.,1970. *Stating Behavioural objectives for Class Room Instruction*, X. NCERT Publications.
- 5) Krathwohl David, R., et.al. *Taxonomy of Education Objectivies – Handbook – II, Affective Domain*, New York:David Mckey.
- 6) Lindvall, C.M. Co. Inc., 1961. *Testing and Evaluation – An Introduction*.
- 7) *Best John, W. Research in Education*, Prentice Hall of India. New Delhi, 1989.
- 8) Barnes John, B., *Educational Research for Class Room Teachers*.
- 9) Sukia, S.P.,1963. *Elements of Educational Research*. Bombay:Allied Publishers.

### SESA–5: GENDER ISSUES IN EDUCATION

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

#### I. OBJECTIVES

The student teacher

- Knows the key concepts – gender, gender – bias, gender Stereotypes empowerment, gender parity, equity, patriarchy and feminism.
- Understands the paradigm shift from women’s studies to gender studies.
- Examines the gender issues in school, curriculum and textual materials across disciplines.
- Develops the skill of removing gender based issues in schools and related pedagogical areas.

#### II. COURSE OUTLINE

##### Unit–I : Gender Issues: Key Concepts

Gender, Sex, Sexuality, Patriarchy, Masculinity and Feminism, Gender bias, Gender stereo tying and empowerment. Equity and in equalities on gender related issues.

##### Unit–II : Gender Studies: Paradigm Shifts

Paradigm shift from women’s studies to gender studies Historical backup – Social reform towards gender equity – policies and committers on gender education.

**Unit–III : Gender, Power and Education**

Gender difference, Gender identities and Socialization – family – School.  
Gender, Culture and Institution: Class, Caste, Religion and Region.

**Unit–IV : Curriculum on Gender Power**

Gender equity – in curriculum since Independence – Teacher as an agent and change – Life skills – Sexuality – Schooling of girls.

**Unit–V : Gender – Sexual Harassment and Abuse**

Linkages and differences between reproductive rights and sexual rights – Development and sexuality – Gender conflicts – Social and emotional – importance of addressing – Sexual abuse – Sexual harassment – School, family, work place, media.

**III. PRACTICAL WORK**

- 1) Prepare a report on portrayal of women in media.
- 2) Submit a report on role models of women in various fields of achievement.
- 3) Prepare list of activities/ Programmes to address gender issues.
- 4) Classify life skills to develop the secured sexuality.
- 5) Analysis activities in schools to solve gender based problem.

**IV. REFERENCES**

- 1) Ambedkar, S.N. and Nagendra, Shilaja, 2005. Women Empowerment and Panchayati Raj. Jaipur: ABD Publishers.
- 2) Brush, Lisa, D., 2007. Gender and Governance. New Delhi: Rawat Publications.
- 3) Jha, Ashok Kumar, 2004. Women in Panchayat Raj Institutions. New Delhi: Anmol Publications Pvt. Ltd.
- 4) Jha, Deepika, 2010. Women in World Politics. New Delhi: Pearl Books.
- 5) Nanda, Roshini, 1996. Women Development and Panchayati Raj. Rohtak: Spellbound Publications Pvt. Ltd.
- 6) Saxena, Alka, 2011. Role of Women in Reservation Politics. New Delhi: Altar Publishing House.
- 7) Saxena, Alka, 2011. Situational Analysis of Women in Politics. New Delhi: Altar Publishing House.
- 8) Saxena, Alka, 2011. Women and Political Leadership. New Delhi: Altar Publishing House.

**SESA–6: ADDRESSING SPECIAL NEEDS IN THE CLASSROOM**

Total Marks: 50

Credits:2

Internal Assessment: 50

Contact Hours: 2 Hours per Week

**I. OBJECTIVES**

The student teacher

- acquires knowledge of education of children with disabilities.
- develops positive attitude towards children with special needs.
- develops skill of planning programmes for children with different abilities.

- develops strategies related to innovative practices of education for children with special needs.
- formulates steps to contribute children with special needs.

## **II. COURSE OUTLINE**

### **Unit-I : Perspectives in Education of Children with Special Need**

History of Education for children with special needs – Trends and approaches – Models – Functional Model – Human rights model – Concept of special Education.

### **Unit-II : Planning Perspectives on Inclusive Education**

Educational provisions in the UN convention on the Rights of persons with Disabilities ( UNCRPD), 2006. National Policy – Education of students with disabilities 2006.

### **Unit-III : Identifying Special Needs**

Classification of students with special needs – Concepts characteristics – Specific learning difficulties – Locomotors Neuromuscular Disaster, mental retardation, Autism, Mental Illness.

### **Unit-IV : Classroom Practices for Solving Learning Difficulties**

Preparing for readiness to address special needs – Understanding advancements, devices, equipments for different disabilities – Class room management – Lesson – Planning – TLM.

### **Unit-V : Pedagogical Strategies**

Developing strategies for students with special needs – Co-operative learning – peer tutoring – Social Learning reflective teaching – Support Services – Addressing Social Climate of the class room.

## **III. REFERENCES**

- 1) Narayanasamy, S &Kansara, J., 2006. Family Community and Hearing Child. New Delhi: Kanishka Publishers.
- 2) Premavathy, V.&Nagomi, V.G., 2005. HandBook: Education of Children with Low Vision, Rehabilitation Council of India, New Delhi: Kanishka Publishers.
- 3) Reddy, G.L., 2004. Hearing Impairment: An Educational Consideration, New Delhi: Discovery Publishing House.
- 4) Venkatesan, S., 2003. Children with Developmental Disabilities: A Training Guide or Parents, Teachers and Car Givers, New Delhi: Sage Publications.
- 5) International Human Resource Development Centre for the Disabled, Sri Ramakrishna Mission Vidyalaya.
- 6) Man, K.& Hallahan, M.J., 1992. Exceptional Children: Introduction to Special Education, New Jersey: Prentice Hall Inc.

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