

# BACHELOR OF ELEMENTARY EDUCATION (B.EL.ED.)

(FOUR YEAR TEACHER EDUCATION PROGRAMME)



महात्मा ज्योतिबा फुले  
रुहेलखण्ड विश्वविद्यालय, बरेली

## ORDINANCES & CURRICULUM

FACULTY OF EDUCATION AND ALLIED SCIENCES,

M.J.P. ROHILKHAND UNIVERSITY, BAREILLY (U.P.)

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M.J.P. ROHILKHAND UNIVERSITY, BAREILLY

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(FOUR YEAR TEACHER EDUCATION PROGRAMME)

## ORDINANCES & CURRICULUM

### Prefatory Note:

The Ordinances pertain to the Bachelor of Elementary Education (B.El.Ed.) Programme in a regular full time mode. This four year professional degree programme of teacher education will run in Faculty of Education & Allied Sciences of M.J.P. Rohilkhand University, Bareilly. It aims to prepare teachers for the elementary stage of education. i.e. for Classes I to VIII. In addition, the programme prepares students for a wide range of professional and academic options in elementary education including teaching in elementary schools with special orientation for government schools; leading elementary school systems in various capacities; teaching and research in elementary education in the government and non-governmental sector; pursuing post-graduate and research studies in education and other disciplines; and working as teacher educators in various State Institutes and University Departments/Colleges offering programmes in elementary education.

### Ordinances for Bachelor of Elementary Education (B.El.Ed.) Programme:

#### 1. Eligibility and Admission:

- (i) Candidates seeking admission to B.El.Ed. Programme should have cleared the higher secondary examination or any other examination recognized as equivalent thereto with a minimum aggregate of 50% marks.
- (ii) The relaxation in marks for SC/ST/OBC/PWD and other categories shall be as per the rules of the Central Government/State Government whichever is applicable.

(iii) Admission to the four-year degree programme in Elementary Teacher Education shall be made on merit on the basis of marks obtained in the qualifying examination (i.e. 10+2 senior secondary examination) and/or in the entrance examination or any other selection process as per the policy of the university.

(iv) In case the admission is made through merit basis, the merit list so prepared by the institution shall be scrutinized and finalized against sanctioned intake by the institution's head and Dean of the faculty.

(v) Eligibility criteria shall vary as per NCTE/UGC/UP State Government/University norms.

(vi) Rules of reservation shall apply to all admissions as per the provisions of the Central Government/State Government /University norms whichever is applicable

(vii) A candidate seeking admission in B. El. Ed. course must have completed 17 years on or before 1st October of the year of admission.

### **Obligation of Admitted Candidates:**

Every admitted candidate shall be required to show a competent knowledge in various theory papers and required skills to be detailed hereinafter.

- (i) Every admitted candidate shall be required to undertake field work, assignments, school internship etc. as given in the course structure.
- (ii) As far attendance is concerned the rules of NCTE/University shall prevail.
- (iii) The medium of instruction shall be Hindi and English

### **1.1 The Mode of Examination:**

- (i) The mode of examination may vary between annual system and semester system as per the decision of the University. The mode of examination prevailing at present is that of annual examination.
- (ii) Students shall be allowed to appear for Back/Improvement examination in one paper only.

### **1.3 Duration and working days**

- (i) Candidates admitted in this Programme shall complete the final year examination within six years from the year of admission.
- (ii) There shall be at least two hundred working days each year exclusive of admission and conduct of examination, and inclusive of the period of classroom transaction, practicum, engaging with schools and school internship. The institution shall work for a minimum of thirty six hours in a week (five or six days), during which faculty shall be available for the requirements of the programme including interaction with and mentoring students.



- (iii) The minimum attendance of student teachers shall be 80% for all course work including practicum, and 90% for school internship.
- (iv) The Bachelor of Elementary Education (B.El. Ed.) course shall be of a minimum duration of four years including a school internship of minimum 20 working weeks out of which 4 working weeks shall be in third year of study and 16 working weeks shall be in fourth / final year of study.

## 1.4 Course Structure of B.El. Ed.

### B.El.Ed. First Year: (MM - 500)

#### A: Theory Papers First Year ( MM :400)

Name of Papers	Marks		
	Internal Evaluation*	External Evaluation	Total
Paper-I: Child Development	20	80	100
Paper-II: Contemporary India	20	80	100
Paper-III: Nature of Language	10	40	50
PaperIV: Core Mathematics	10	40	50
Paper-V: Core Natural Sciences	10	40	50
Paper-VI: Core Social Sciences	10	40	50
<b>TOTAL</b>	<b>80</b>	<b>320</b>	<b>400</b>

*\* Internal evaluation in paper I to VI shall be done through one internal Written test in each paper.*

#### B: Practical Activities First Year (MM:100)

Practical Activities	Marks		
	Int.	Ext.	Total
A: Performing and Fine Arts	40	-	40
B: Craft, Participatory Work	40	-	40
C Academic Enrichment Activities: School contact programme	20	-	20
<b>TOTAL</b>	<b>100</b>	<b>-</b>	<b>100</b>




**B. El. Ed. Second Year: (MM- 500)****A: Theory Papers Second Year (MM: 400)**

Name of Papers	Marks		
	Int.*	Ext.	Total
<b>Paper-VII:</b> Development and Understanding of the Learner	20	80	100
<b>Paper-VIII:</b> Education, Society, Curriculum and Learners	20	80	100
<b>Paper-IX:</b> Language Across the Curriculum	10	40	50
<b>Paper-X:</b> Understanding the Self	10	40	50
<b>Paper-XI: Liberal Course</b> (Optional- I , One of the following)** ( A ): English I ( B ): Hindi I ( C ): Mathematics I ( D ): Physics I ( E ): Chemistry I ( F ): Biology I ( G ): History I ( H ): Political Science I ( I ): Geography I ( J ): Economics I ** Option will be offered as per the availability in respective colleges.	20	80	100
<b>TOTAL</b>	<b>80</b>	<b>320</b>	<b>400</b>

*\* Internal evaluation in paper vii to xi shall be done through one internal  
Written test in each paper or practical activities as mentioned in the syllabus*



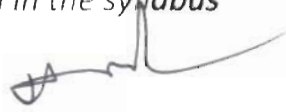


**B: Practical Activities Second Year (MM:100)**

Practical Activities	Marks		
	Int.	Ext.	Total
A: Observing Children	30	-	30
B: Self-development Workshops	30	-	30
C: Sports and Physical Education	20	-	20
D: Academic Enrichment Activities: Story Telling and Children's literature	20	-	20
<b>TOTAL</b>	<b>100</b>	<b>-</b>	<b>100</b>

**B.El.Ed. Third Year (MM- 650)****A: Theory Papers Third Year (MM: 400)**

Name of Papers	Marks		
	Int.*	Ext.	Total
<b>Paper-XII:</b> Basic Concepts in Education	20	80	100
<b>Paper-XIII:</b> School Planning Management	10	40	50
<b>Paper-XIV:</b> Logico Mathematics Education	10	40	50
<b>Paper-XV:</b> Pedagogy of Environmental Studies	10	40	50
<b>Paper-XVI:</b> Liberal Course (Optional II One of the following)**  (A): English- II (B): Hindi- I I (C): Mathematics- II (D): Physics -II (E): Chemistry-II (F): Biology -II (G): History -II (H): Political Science- II (I): Geography -II (J): Economics -II  **Option will be offered as per the availability in respective colleges.	20	80	100
<b>Paper-XVII:</b> Components of general classroom teaching	10	40	50
<b>TOTAL</b>	<b>80</b>	<b>320</b>	<b>400</b>

*\* Internal evaluation in paper xii to xvii shall be done through one internal written test in each paper or practical activities as mentioned in the syllabus*





### B: Practical Activities Third Year(MM:250)

Practical Activities	Marks		
	Int.	Ext.	Total
<b>A:</b> To develop Teaching Skills (through teaching Of 10 Micro lessons)	25	-	25
<b>B:</b> 4 week internship in primary and elementary schools	25	125	150
<b>C:</b> Documents and text analysis	-	25	25
<b>D:</b> Preparation and use of teaching aids and learning material	25	25	50
<b>TOTAL</b>	<b>75</b>	<b>175</b>	<b>250</b>

The evaluation of the above practical activities of third year will be conducted as follows:

Category-A: (MM:175)		Marks		
		Int	Ext.	Total
<b>i</b>	Evaluation of the records of 4 weeks internship in primary and elementary Schools and evaluation of Teaching skills of students through teaching of one Lesson plan	-	125(25+100)	125
<b>ii</b>	Evaluation of documents and text analysis	-	25	25
<b>iii</b>	Evaluation of teaching aids and learning material prepared by the students	-	25	25
	<b>Total</b>	-	175	175
<b>Category -B (MM:75 )</b>				
<b>i</b>	Evaluation of Teaching Skills (through 02 Micro teaching lessons)	25	-	25
<b>ii</b>	Evaluation of internship activities of students	25	-	25
<b>iii</b>	Evaluation of teaching aids and learning material prepared by the students	25	-	25
	<b>Total</b>	<b>75</b>	-	<b>75</b>



**Note:** The evaluation under **category-A** will be done by a board of two examiners – one external and one internal appointed by the University. The evaluation under **category-B** will be done by concerned supervisor/teachers . The internal marks shall be sent through Head of the institution to university in triplicate, prior to final teaching skill examination. Failing which no panel of examiners for category-A will be allotted.

**B.El.Ed. :Fourth Year: ( MM-700)**

**A: Theory Papers: Fourth Year (300)**

Name of Papers	Marks		
	Internal*	External	Total
<b>Paper- XVIII:</b> Curriculum Studies	20	80	100
<b>Paper- XIX:</b> Children’s Physical and Emotional Health, School Health and Education	10	40	50
<b>Paper-XX:</b> Gender and Schooling	10	40	50
<b>Paper-XXI: Option A :</b> Pedagogy (one of the following) : <div> A:Language  B:Mathematics  C:Natural Science  D:Social Science </div>	10	40	50
<b>Paper-XXII: Option B:</b> Specialized courses in education (one of the following): <div> A: Computer Education and Understanding  B: Special Education </div>	10	40	50
<b>TOTAL</b>	<b>60</b>	<b>240</b>	<b>300</b>

*\* Internal evaluation in paper xviii to xxii shall be done through one internal written test in each paper or practical activities as mentioned in the syllabus .*

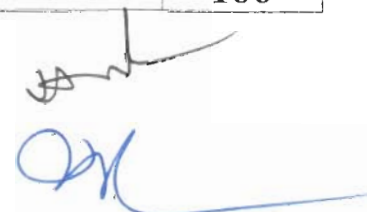


## B: Practical Activities: Fourth Year:(400)

Practical Activities	Marks		
	Int.	Ext.	Total
A: School Internship	50	200	250
B: Project work	-	50	50
C: Preparation of innovative teaching aids	25	25	50
D Academic Enrichment Activities: Creating Resource Centre	25	25	50
<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>

The evaluation of the above practical activities of fourth year will be conducted as follows:

Category-A: (MM:300)		Marks		
		Int.	Ext.	Total
<b>i</b>	Evaluation of the records of 16 weeks internship activities in Schools and evaluation of Teaching skills of students through teaching of two Lesson plans	-	200(50+150)	200
<b>ii</b>	Evaluation of Project work	-	50	50
<b>iii</b>	Evaluation of innovative teaching aids Prepared by the students		25	25
<b>iv</b>	Evaluation of Academic Enrichment Activities: Creating Resource Centre		25	25
	<b>Total</b>	-	<b>300</b>	<b>300</b>
<b>Category -B (MM:100 )</b>				
<b>i</b>	Evaluation of the activities of 16 weeks internship in schools	50	-	50
<b>ii</b>	Evaluation of the preparation and use of innovative teaching aids	25	-	25
<b>iii</b>	Evaluation of Academic Enrichment Activities: Creating Resource Centre	25	-	25
	<b>Total</b>	<b>100</b>	-	<b>100</b>





**Note:** The evaluation under **category-A** will be done by a board of three examiners – two external and one internal appointed by the University. The evaluation under **category-B** will be done by concerned supervisor/teachers. The internal marks shall be sent through Head of the institution to university in triplicate prior to final teaching skill examination, failing which no panel of examiners for category-A will be allotted.

## 1.5 Conduct of Examinations :

- (i) The examination for four years B. El. Ed. shall be held once every year on such dates as may be fixed by the University.
- (ii) A candidate shall be eligible to appear in the examination who has pursued the prescribed course of studies and has completed required attendance and all the activities related to practical/teaching/field engagement etc. as prescribed for each year.
- (iii) The examination at the end of the course shall be both in theory and practical/teaching skill/Field engagement. A candidate shall be required to pass theory and practical/ teaching skill/field work examinations separately.
- (iv) To pass in theory, a candidate must obtain 30% marks in each theory paper and 36% in the aggregate of theory papers. In practical/ teaching skill/field engagement pass percentage shall be 40%.
- (v) There shall be separate divisions in theory and practical/ teaching skill/field engagement. However, no division shall be awarded in the first/second /third year. Only Pass/Fail shall be given in these years. Divisions shall be awarded on the basis of examination of all four years.
- (vi) Classification of results (Theory as well as Practicals/ teaching skill/Field engagement) –
 

60% and above	-	First Division
48% and above but below 60%	-	Second Division
36% and above but below 48%	-	Third Division (For Theory
40% and above but below 48%	-	Third Division (For Practical/ teaching skill/Field Engagement)
- (vii) A candidate shall be promoted to next year only when he/she has passed the examination of previous year.

(viii) In each academic session, the candidate can appear in improvement/back exam. in one paper only.

ix) A student of B. El. Ed. course, who has completed all the desired Activities/internal tests/attendance etc. throughout the year but could not appear in the examination or appeared in the examination but failed in more than one papers, may be allowed to appear in the examination of next year as an ex-student. The internal marks received in previous academic session shall be carried over.

(x) Mark sheet and Degrees shall be awarded as Bachelor of Elementary Education.

(xi) In case of any obscurity, the general provision of the faculty of education and allied Sciences / university shall prevail.

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# Theory Papers First Year

## Syllabus

### Paper-I: Child Development

**MM:100** (Internal 20 , External 80)

#### Course Content:

Unit 1 **Concept, Issues and Theories of Human Development** : what is development and why should we study it; developmental principles; influences of heredity and environment; methods of studying development; concepts of socialization, education and acculturation in the context of development; theories of Erikson, Piaget and Kohlberg; significant developmental periods in the human life span.

Unit 2 **Birth and Infancy**: importance of conception; pre-natal development and birth; physical and mental development of infants; emotion in infancy; the infant in the family and implications for personality development.

Unit 3 **The Pre-school Child** : physical growth and motor development; intellectual characteristics; development of personality with special reference to identification and child-rearing techniques; gender stereotyping; morality; play patterns of pre-school children.

Unit 4 **The Elementary School Child** : physical growth and development; the developing mind – intelligence; language and thought; the social world of the child, parents and children, friends, school and media, play; moral attitudes and behavior; development of self identity, self-concept; gender roles; play, interests and activities of the elementary school child.

Unit 5 **Children with Special Needs** : concept of special children – talented, creative, gifted children; slow learners and under achievers; emotionally disturbed children; culturally and social disadvantaged children.

#### READINGS

1. Barnes, P. (ed) *Personal, Social and Emotional Development of Children*, Blackwell : Oxford, 1995, Chapter 1 and 6.
2. Berk, Laura E. *Child Development*, Prentice Hall of India : New Delhi, 1996.



3. Clarke Stewart, A. and S. Firedman. *Child Development : Infancy through Adolescence*, John-Wiley and Sons, UK, 1987.
4. Crain, Williams C. *Theories of Development : Concepts and Applications*, Prentice Hall of India : New Delhi, 1980, 2<sup>nd</sup> edition.
5. Gardner, Howard. *Developmental Psychology : An Introduction*, Little Brown & Co. : Boston, 1978.
6. Gauvian, M. and M. Cole. (eds.) *Readings on the Development of Children*. W.H. Freeman : New York, 1997.
7. Hetherington, E.M. and R.D. Parke. *Child Psychology : A contemporary view point*, McGraw Hill : Auckland, UK, 1993.
8. Kakkar, S. *The Inner World*, Oxford University Press : New Delhi, 1980, pp. 189-211.
9. Papalia, D. and S. Olds. *Human Development*, Tata McGraw Hill : New Delhi, 1996.
10. Saraswathi, T.S. (ed) *Culture, Socialisation and Human Development : Theory, Research*
11. Winnicott, D.W. Child, *The Family and The Outside World*, Addison-Wesley: UK, 1992.





## Paper-II: Contemporary India

**MM:100 (Internal 20 , External 80)**

### Course Content:

**Unit 1:** India as 'society'; 'civilization'; 'nation-state'; India's emergence from the freedom struggle as a nation-state.

**Unit 2: The Constitution :** its framework and scope; major social policies enshrined in the Constitution; provision related to childhood and education; concurrent status of education; National Policy on Education (1986)

**Unit 3: Economic Issues :** poverty and inequality; employment; private and public sector; new economic policy.

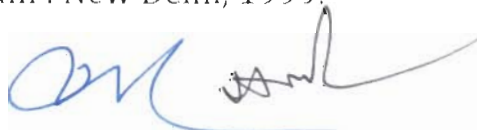
**Unit 4: Political Issues :** main features of the democratic system; central, state-level and local systems of government.

**Unit 5: Social and Cultural Issues :** major characteristics of India's pluralist make-up; gender-related issues; family and child-rearing in India (to be studied with the help of a project based on locally done field work).

**Unit 6: Major Issues in Contemporary India (to be studied by class-room and individual projects) :** childhood in India; environment and development; reservation as an egalitarian policy; social conflict.

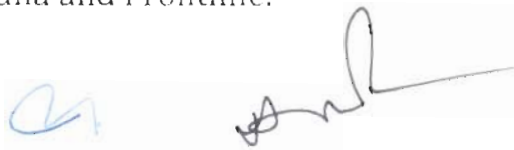
### READINGS:

1. Bhaduri, Amit and Deepak Nayyar. *The Intelligent Person's Guide to Liberalization*; Penguin Books India; New Delhi, 1996.
2. Dubey, S.C. *Indian Society*, National Book Trust: New Delhi, 2001 (Reprint)
3. Heehs, Peter. *India's Freedom Struggle 1857-1947 : a short history*, Oxford University Press: New York, 1988.
4. Hussain, S. Abid. *The National Culture of India*, National Book Trust: New Delhi, 1994.
5. Kashyap, S.C. *The Constitution of India*, National Book Trust: New Delhi 1994.
6. Khilnani, Sunil. *The Idea of India*, Penguin : New Delhi, 1999.



7. Shah, A.M. *Family in India : Critical Essays*, Orient Longman : New Delhi, 1988.

Students are expected to see the following periodicals regularly :  
Mainstream, Seminar, Yojana and Frontline.

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## Paper-III: Nature of Language

MM:50 (Internal 10 , External 40)

### Course Content:

**Unit 1 Aspects of Linguistic Behavior** : verbal and non-verbal communication; human and non-human communication; defining feature of a human system of communication; language and mind; language and society; language as rule governed behavior and linguistic variability; speech and writing.

**Unit 2 Linguistic Systems** : the organization of sounds; the structure of sentences; the concept of Universal Grammar; nature and structure of meaning; basic concepts in phonology, syntax and semantics (to be taught through suitable illustrations).

**Unit 3 Text and Linguistic Systems** : organization of text discourse structure, oral and writer; nature of classroom discourse. Structure of a story, poem, essay etc., point of entry into texts to teach them more effectively (to be taught through practicum).

**Unit 4 Languages of India** : multilingualism; using the multilingual resource of a classroom (to be taught through practicum).

### READINGS

1. Agnihotri, R.K. and Khann A.L. (eds.) *English Grammar in Context*, Ratnasagar : Delhi, 1996.
2. Agnihotri, R.K. 'Multilingualism as a Classroom Resource', in K. Heugh, et. al. (eds.) *Education for South Africa*, Heinemann : Johannesburg, 1995.
3. Agnihorti, R.K. *Sociolinguistic Aspects of Multilingual Classrooms*, Paper presented at the International Seminar on Language in Educaiton', Cape Town, South Africa, January 15-20, 1996.
4. Aitchison, J. *Linguistics*, Hodder and Stoughton : Longon, 1978. Chap. 1-5.
5. Brumfit, C. J. and J.T. Robers. *Language and Language Teaching*, Batsford Academic and Educational (H) : London, 1983. Chapter 1-5, 7.
6. Hudson, R.A. *Sociolinguistics*, Cambridge University Press : Cambridge, 1980, Chapters 1 and 2.



7. IGNOU, CTE – 02. Certificate Programme in Teaching of English as a Second Language : *The Structure of English*, IGNOU : New Delhi, 1995.
8. IGNOU, EEG – 02. Elective Course in English : *The Structure of Modern English*, Blocks 1 and 2 : Phonetics and Phonology; Blocks 3 and 4 : Morphology; Blocks 5, 6 and 7: Syntax, IGNOU : New Delhi, 1989.
9. IGNOU, ATR – 01. *Application in Translation*, IGNOU : New Delhi, Reprint 2000.
10. Shapiro, M.C. *A Primer of Modern Standard Hindi*, Motilal Banarsidass : Delhi, 1989, Chapter 1-3, 27, 28.
11. Verma, S.K. and N. Krihnaswamy. *Modern Linguistics : An Introduction*, Oxford University Press : Delhi, 1993. Chapters 1 & 2.
12. Yule, G. *The study of Language*, (2<sup>nd</sup> Edition), Cambridge University Press : Cambridge 1996. Chapters 3-8, 19-20.
13. नारंग, बैष्णा. सामान्य भाषाविज्ञान, प्रकाशन संस्थान : दिल्ली, 1984

## Paper IV: Core Mathematics

**MM:50 (Internal 10 , External 40)**

### Course Content:

Unit 1 **Number and Measurement** : counting and place Value; arithmetic operations; approximation; estimation; fractions and decimals; concept and measurement of length, mass/weight, area, volume, time.

Unit 2 **Space and Shape** : symmetry and pattern – properties of two and three dimensional objects e.g. symmetries, projection, perspective, tessellation, closest packing etc.

Unit 3 **Algebra** : number patterns – forming and solving simple linear equations – other mathematical investigations and puzzles.

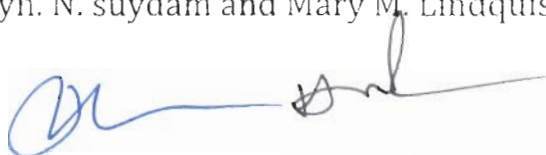
Unit 4 **Practical Arithmetic and Handling Data** : collecting, representing and interpreting data; using elementary statistical techniques; timetables and time tabling; flow charts; percentage; ratio and proportion; interest; discount; tax.

### READINGS

1. Bolt, Brian. *Mathematical Activities, A Resource Book for Teachers*, Cambridge University Press : Cambridge, 1982.
2. Bolt, Brian and David Hobbs. *101 Mathematical Projects*, Cambridge University Press : New York, 1990.
3. Furth, H.G. and S.H. Wachs. *Thinking Goes to School*, Oxford University Press : New York, 1975.
4. Gary L. Musser and William F. Burger. *Mathematics for Elementary Teachers : A Contemporary Approach*, Macmillan : UK, 1994, Third Edition.
5. Hold, M. and Z. Dienes. *Lets Play Mathematics*, Penguin : Harmondsworth, 1973.
6. UGNOU, AMT-01. *Teaching of Primary School Mathematics*, UGNOU : New Delhi, 1991.
7. IGNOU, LMT-01. *Learning Mathematics*, IGNOU : New Delhi, 2001.



8. Joanna, O. Man Singila and Frank Lester. *Mathematics for Elementary Teachers via Problem Solving*, Prentice Hall : UKI, 1998.
9. Nuffield Mathematics Project, *Mathematics Begins*, Newgate School Mathematics Project, Levels I to VIII, Work Books and Teacher Guides, Nuffield : London, 1987.
10. Perelman, Ya. *Mathematics is Fun*, Mezhumurondnaya Kniga : Moscow, 1985.
11. Robert F. Reyes, Marilyn. N. suydam and Mary M. Lindquist. *Helping Children Learn M*

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## Paper-V: Core Natural Sciences

MM:50 (Internal 10 , External 40)

### Course Content:

Unit 1 Classification, property, concept, relation, law.

Unit 2 Measurement of length, mass and time; density; pressure; work and energy; weight; falling of bodies; gravitation; heat and temperature; states of matter; properties of magnets; electricity; refraction and dispersion.

Unit 3 Physical and chemical changes; separation of mixtures; atoms and molecules; metals and non-metals; oxides; acids; bases and salts; air and combustion; water – hard and soft.

Unit 4 Living and non-living; classification of living world; germination of seeds; life processes e.g. respiration, digestion, reproduction, photosynthesis, transpiration, interdependence of plants and animals.

### READINGS

1. Eklavya. Bal Vigyanik, Class 6, 7, 8, Madhya Pradesh Pathyapustak Nigam : Bhopal, 1978. Refer to updated editions.
2. Esler, W.K. *Teaching Elementary Science*, Wads Worth : California, 1973.
3. Gega, Peter. *Science in Elementary Education*, Wiley & Sons : New York, 1970.
4. Jennings, Jerry. *The Young Scientist Investigates*, Book I & II, Oxford University Press : London, 1980.
5. Keetow, W.T. and J.L. Gould. *Biological Science*, W.W. Norton : New York, 1986.
6. Leoburn, Arkady. *Tell Me Why*, Hamlyn Publication : London, 1966.
7. Nelson, R. and B. Looioian. *Fundamental Concepts of Biology*, John Wiley and Songs : New York.
8. Wolf, S.F. *Biology : The Foundations*, Wadsworth : California, 1977.
9. UNESCO, *New UNESCO Source Book for Science Teaching*, University Press (India) Ltd.: India, 1979.



## Paper-VI: Core Social Sciences

MM:50 (Internal 10 , External 40)

### Course Content:

**Unit 1 Nature of Social Science :** data, method and evidence to be discussed in the context of history, geography, civics, sociology and economics. Role of social science discipline in the learner's development. Significance of perspective and context in the study of social sciences. (Exemplars : 1857, Secularism/Communalism).

**Unit 2 Relationship between human experience and the growth of institutions (to be studied in the context of the following concepts) :** monarchy, aristocracy, imperialism, fascism, nationalism, democracy and citizenship. (These concepts could be taught with examples form a content area which may be thought fit – the emphasis however, should be on the teaching of concepts).

**Unit 3 Relationship between human life, space and resources (to be studied in the context of the following) :** movement from a subsistent economy to a surplus economy; demography and the distribution of wealth in society; spatial interaction (to be taught in the Indian context).

**Unit 4 Study of the relationships and interactions of people in groups :** culture, social stratification and social change.

### READINGS

1. Bottomore, T.B. *Sociology*, George Allen and Unwin : London, 1971.
2. Bottomore, T.B. *Dictionary of Marxist Thought*, Basil Blackwell : Oxford, 1983.
3. Carr, E.H. *What is History ?* Macmillan : London, 1962.
4. Ellis, Arthur K. *Teaching and Learning Elementary Social Studies*, Allyn and Bacon : Boston, 1991.
5. Horton, P.B. and C.L. Hunt. *Sociology*, Mc Graw Hill : New York, 1972.
6. IGNOU, *Foundation Courses in Humanities and Social Sciences*, FHS-1, Blocks 1-8, UGNOU : New Delhi, 1998.



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7. IGNOU, *Introduction of Political Theory and Institutions*, EPS-01, Blocks 1-8, UGNOU : New Delhi, 1993.
8. *International Encyclopedia of Social Science*. The MacMillan Co. : New York, 1968.
9. Jarolimek, John. *Social Studies in Elementary Education*, MacMillan : New York, 1992.
10. Kumar, Krishna. *Learning from Conflict*, Orient Longman : Delhi, 1996.
11. Popenoe, David. *Sociology*, Prentice Hall : Eaglewood Cliffs, 1980.
12. Srivastava, V.K. The Ethnographer and the People : Reflections on Field Work, *Economic and Political Weekly*, June 15, 1991, 1-8.
13. वर्मा, लाल बहादुर. *इतिहास के बारे में* भाषा प्रकाशन : नई दिल्ली, 1979.

## **B: Practical Activities First Year: (100 Marks)**

### **(a) Performing and Fine Arts: (40 Marks):**

The students must be guided to acquaint with four thrust areas. One is related to developing the student's own personality and capacity. The second is to help develop the potentialities of school children to the point of driving home the fact that child is the creator of knowledge. The third is to develop communication and interaction capabilities. And the fourth is to find linkages between various art forms and school subjects so as to develop a holistic view about learning. Students will complete the activities given below:

- Listening/viewing and exploring Regional art forms of music, dance, theatre and puppetry.
- Viewing/listening to live and recorded performances of classical and Regional art forms; and their appraisal.
- Participation and performance in any one of the Performing Arts keeping in mind the integrated educational approach.
- Designing and management of stage-setting for a performance/presentation (properties, costume, make-up, set design, lighting etc.).
- To achieve the objective of above activities a series of workshops will be organized in continuity and under professional guidance, over the academic year.



- After completing the above activities student will keep the record of all activities in the form of reports.

### **(b) Craft, Participatory Work:( 40 Marks)**

Craft activities are to be conducted in the form of workshops for groups of 10-15 students under the supervision and guidance of professionals. workshops will include individual and group work. The focus of workshops will be to develop skills of craft and to use craft in education.

Students will complete the activities given below:

**Paperwork** :Origami, paper cutting, collage making

**Painting** :Drawing, painting of different kinds, with water colours, oil paste, batik, tie and dye, fabric colours etc.

**Modelling** :Model making, mask making using clay, plaster of paris or any other medium.

**Waste material** : Making different forms of animal and human figures using natural materials such as flowers, twigs, leaves, making objects or puppets out of waste material such as ice-cream sticks, empty match boxes, wool, cotton, socks, thread, sticks etc.

**Puppet making** : Using paper, cloth and other materials to make puppets

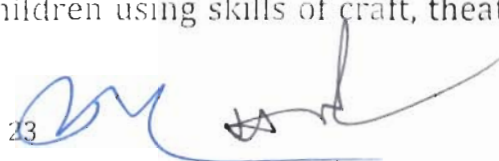
**Paper Mache** : Making various objects and masks using the skill and the technique of papier-mâché

### **(C) Academic Enrichment Activities: School contact programme:**

#### **(MM:20)**

To learn to relate and communicate with children and to conduct meaningful group and individual activities with children the pupil teachers will contact to the primary and elementary schools. Each student should have a minimum of 6 contact sessions in primary and elementary schools over the year. Each group of 5-6 students will be supervised by a faculty member .In respect to the school contact programme the following activities will be done:

- Interaction with children using planned activities like- design and organize creative activities with children using skills of craft, theatre, and music.

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- Conduct meaningful group and individual activities with children.
- Engage all children in activities and to ensure active participation and free expression.
- Observe children and collate experiences of interacting with and relating to children.
- Individual and Group reports will be prepared by the students regarding their school contact programme.
- Each group will make a minimum of two presentations based on the collated experiences of all members. Group presentations will be followed by question, queries and comments from the rest of the class.

*[Handwritten signature]*

## Theory Papers : Second Year

### Syllabus

#### **Paper-VII: Development and Understanding of the Learner**

**MM:100** (Internal 20, External 80)

#### **Course Content:**

##### **UNIT-1: Educational Psychology**

- Definition, Nature and Scope
- Methods of Educational Psychology:  
a) Introspection b) Observation c) Experimental d) Case study

##### **UNIT-2 : Growth and Development**

- Concept, Principles of Development, Factors affecting growth and development
- Intellectual, Physical, Social and Emotional development during Childhood and Adolescence

##### **UNIT-3: Intelligence**

- Definition and Meaning of Intelligence
- Gardner's Theory of Multiple Intelligence
- Measurement of Intelligence Tests: Verbal, Non-Verbal and Performance Tests

##### **UNIT-4: Personality**

- Definition, Meaning, Dimensions and Factors affecting personality
- Assessment of Personality-Subjective, Objective and Projective Techniques
- Theories of personality –Eysenk's, Freud's Theory of psychoanalysis

##### **UNIT-5: Creativity**

- Concept, characteristics, identification of creative potential
- Creative Process and Educational programmes for developing creativity

##### **UNIT-6: Individual Difference**

- Concept, types.
- Role of environment and heredity as a determinant of individual difference and their relative importance.
- Educational implications of individual differences.

## READINGS

1. Cole, M. Cole, S.R. and Lightfoot, C. (2004). *The Development of Children*. New York: Worth Publishers. Chapter 1: The study of Human Development.
2. Newman, B.M. and Newman, P.H (2007). *Theories of Human Development*. London: Lawrence Erlbaum Associates, Publishers. Chapter 1: Introduction.
3. Papalia, D.E. and Olds, S.W. (2003). *Human Development*. New York: McGraw Hill Higher Education. Chapter 1: The Study of Human Development, Chapter 2: Theory and Research, Chapter 4: Physical Development During the First Three Years, Chapter 7: Physical Development in Early Childhood. Chapter 9: Physical Development in Middle Childhood
4. Saraswathi, T.S. (Ed.) (1999). *Culture, Socialization and Human Development: Theory, Research and Applications in India*. Sage publications. Chapter 4: Theoretical Frameworks in Cross-Cultural Psychology, Chapter 6: Individualism in a Collective Culture: A Case of Co-existence of Opposites.
5. Vasanta, D. (2004). Childhood, Work and Schooling: Some Reflections. *Contemporary Education Dialoguing*, Vol. 2 (1). 5-29
6. Hurlock, E.R. *Developing Psychology*. Mc. Graw Publishing Housing
7. Chauhan, S.S. (2002) *Advanced Educational Psychology*, Vikas Publishing House.
8. Kulshreshtha, S.P. (1997) *Educational Psychology*, R.Lall Book Depot, Meerut
9. Aggarwal, J.C. (1999) *Elementary Educational*, Doaba House, Delhi.
10. Manal, S.K. (1992) *Educational Psychology*, Parkash Brothers, Ludhiana
11. Aggarwal, J.C. (2004) *Essentials of Educational Psychology*. Vikas Publishing



## Paper-VIII: Education, Society, Curriculum and Learners

MM: 100 (Internal 20, External 80)

### Course Content:

#### Unit 1: Philosophical Understanding of Education

- Exploring, and inquiring into the nature and need of education in human societies
- Relationship between schooling and education, and exploring various educative processes in human societies
- Schooling and Education as visualized by different western and Indian thinkers: Rousseau, Dewey, Gandhi, Tagore
- Understanding the basic assumptions about human nature, society, learning, and aims of education

#### Unit 2: Education, Politics and Society

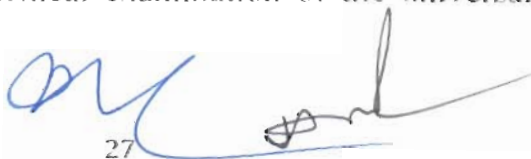
- Prominent characteristics of education in India during colonial rule
- India's Contemporary Education: continuities with and shifts from colonial legacy

Role of education in reproducing dominance and challenging marginalization with reference to class, caste, gender and religion

- Political nature of education
- Teacher and society: A critical appraisal of teacher's status

#### Unit 3: Learning, Learner and Teaching

- Learning: concept and nature
- Learning, knowledge and skills: different ways of learning
  - Meaning of teaching and its relationship with learning and learner
  - Socialization and learning: understanding influences and factors that shape learner's identity
  - Learners in Context: Situating learner in the socio political and cultural context
  - Constructs of Childhood: Critical examination of the universal construct of childhood.




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#### Unit 4: Knowledge and Curriculum

- Child's construction of knowledge: attaining knowledge through activity and Experience
- 'Body of knowledge' and children's construction of knowledge
  - Concepts of Belief, Information, Knowledge and Understanding
  - Bodies of knowledge: different kinds of knowledge and their validation processes
  - Processes and criteria for curriculum selection and construction

#### Readings:

1. Badheka, G. (2001). *Ball Shikshan aur Shikshak* Bikaner: Vaagdevi Prakashan.
2. Chanana, K. (2008) Bharat main Prathamik Shiksha main Langik Asamnata Manavadhikar Paripekshya in Sureshchandra Shukla and Krishna Kumar (Eds.) *Shiksha ka Samajshastriya Sandarbh*. Delhi: Granthshilpi (also available in English S. Shukla and K. Kumar (Eds.)
3. Dewey, J. (1952). *The School and the Child*. New York: The Macmillan Company, (Also available in Hindi *School and Bachehe* Translation: RRCEE)
4. Kumar, K. (1988). *What is Worth Teaching*. New Delhi: Orient Longman. Chapter 1: What is Worth Teaching? Chapter 2: Origins of the Textbook Culture, Chapter 9: Listening to Gandhi (Also Available in Hindi *Shakshik Gyan aur Varchasav*. New Delhi: Granthshilpi.)
5. Palmer, Joy A. et. al (2001). Jean -Jacques Rousseau, John Dewey, Rabindranath Tagore, M.K. Gandhi, Maria Montessori *Five Major Thinkers on Education From Confucius to Dewey*, USA: Routledge.





## Paper-IX: Language Across the Curriculum

MM: 50 (Internal 10 , External 40)

### Course Content:

#### Unit I: Language and Society:

- Relationship between language and society: identity, power and discrimination
- Multilingualism: differential status of Indian classroom language, dialects vs standard language.

#### Unit II: Language Development and Acquisition:

- Theories of language development and its implementation in teaching, Psychological basis of language.
- Language acquisition: stages, language and thought;
- Language acquisition and cognitive development, language in different contexts.

#### Unit III: Classroom Discourse:


- Classroom discourse: meaning, nature and medium, importance and elements of oral language.
- Strategies for using oral language: Discussion and questioning as tools for learning, debates, seminars.
- Role of teacher in classroom discourse.

#### Unit IV: Reading, Listening and Speaking:

- Need and importance, Types of reading: Skimming and scanning, strategies for effective reading: loud and silent readings, Analysing text of different nature.
- Developing listening skills, articulation of different sounds, stress, rhythm, tonal variations and intonation, Speech defects – lisping, slurring, stuttering and stammering and role of teacher in their resolution.

#### Unit V: Developing Writing Skills:

- Need and importance of writing, Making reading writing connections.
- Strategies of writing for children – note taking, summarising, Analysing children's writings, Text book analysis.



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## Readings:

1. Agnihotri, R.K. (1995). Multilingualism as a classroom resource. In K. Heugh, A. Seigruhn & P. Pluddemann (Eds.) *Multilingual education for South Africa*, Heinemann Educational Books
2. Eller, R.G. (1989). Johnny can't talk, either : The perpetuation of deficit theory in classrooms, - *The Reading Teacher*, 670-674
3. Sinha, S. (2000). Acquiring literacy in schools. *Seminar*, 38-42
4. Thwaite, A. and Rivalland, J. (2009). How can analysis of classroom talk help teachers reflect on their practices? *Australian Journal of Language and Literacy*, 32(1), 38
5. Anderson, R.C. (1984). Role of reader's schema in comprehension, learning and memory. In R.C. Anderson et al. (eds) *Learning to read in American schools : Basal readers and content texts*. Psychology Press
6. Grellet, F. (1981). *Developing reading skills : A practical guide to reading comprehension exercises*. Cambridge University Press
7. NCERT (2006). Position paper : National Focus Group on teaching of Indian language (NCF-2005). New Delhi : NCERT



## Paper-X: Understanding the Self

MM:50 (Internal 10 , External 40)

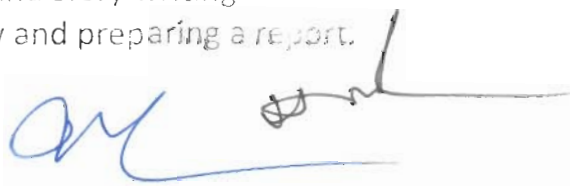
### Course Content:

#### Concept of Self and Understanding the Self):

- Concept of Self
- Understanding the Self in context of Indian Philosophy
- Understanding the Self in context of Various Religions
- Understanding the Self in context of Psychology
- Role of a teacher for creating the understanding of the Self
- Role of a school for creating the understanding of the Self
- Positive and Negative factors affecting the understanding of the Self
- Importance of understanding the Self in the context of education

#### Practicum/Activities :One of the following : (10 Marks internal)

- (i) Organization of Yoga and meditation classes in schools
- (ii) Attending a workshop on Personality Development.
- (iv) Revisiting one's childhood experiences and childhood experiences of one's peers.
- (v) Self disclosure through art, dance and story writing
- (vi) Meeting people within community and preparing a report.



## **Paper-XI: Liberal Course**

### **(Optional- I, One of the following)\***

\* Option will be offered as per the availability in respective colleges.

### **Paper-XI ( A ): Liberal Course- English- I**

**MM:100 (Internal 20 , External 80)**

#### **Course Content:**

##### **SECTION A : READING AND WRITING SKILLS**

##### **Texts :**

(Page references for extracts are from named editions. These may vary in different editions).

Panchtantra : The Monkey and the Crocodile

Hans Christian Andersen: Rapunzel

Stephen Leacock : From Literary Lapses : My Financial Career (Penguin 1939, Pg.7-10).

Carl Sagan : From Cosmos (Ballantine Books) from chapter 1, Pg. 1-5. "The Cosmos is all that is..... "to" ..... working out our destiny".

T.S. Eliot : Macavity (poem).

Wole Soyinka : Telephone Conversation (poem).

Anne Frank : The Diary of a Young Girl (Pocket Books, New York, 1958) Pg. 49-50. Letter dated Friday 20<sup>th</sup> November, 1942. From "None of us really knows how to take it all ..... "it" ..... about those other miseries".



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Lord Byron	: From Byron's letters and journals Vol. IV (ed by Leslie Marchand) Pg. 326-327. Letter to Tom More, October 31, 1815. Extract from "Yesterday I dined out ..... "to" ..... the first sprightly runnings of others."
Times of India	: Four advertisements from the Matrimonial Page.
Philip Kotler	: The Principles of Marketing (Prentice Hall, India) Pg. 159-160 from "Playboy magazine has passed ..... "to" ..... factors that influence and motivate consumer behavior."
Shakespeare	: Julius Caesar Act III Sc. 2 Ln 12-33 and Ln 74-107 (Speeches of Brutus and Mark Antony).
Charles Dickens	: David Copperfield. (Penguin Classics) Pg. 312-314. From "We entered a low ..... "to" ..... Uriah's dented nostrils."

- The differences between teaching English as a first language, as a second language and as a foreign language.
- 2. Common language errors which are likely to be encountered by the teachers of ESL.
- Implications of teaching language through literature.

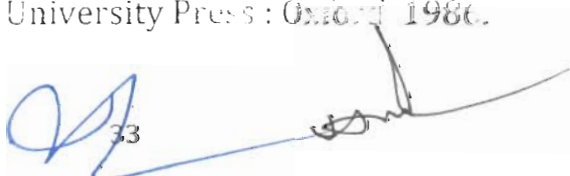
#### **Practicum/Activities : 20 Marks Internal**

Students must produce a minimum of 6 pieces of writing, of which the best 4 will be included in the internal assessment.

#### **READINGS**

1. Allen, H. and Cambell, R. (ed.) *Teaching English as a Second Language*, McGraw Hill : New York, 1972.
2. Brumfit, C.J. and Johnson (ed.). *The Communicative Approach to Language*, Oxford University Press : Oxford, 1979.
3. Kachru, Braj B. 'Non-Native Literatures in English as a Resource for Language Teaching', in Brumfit, C.J. and Carter, P.A. (ed.), *Language and Literature Teaching*, Oxford University Press : Oxford 1986.

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# Paper-XI ( C ): Liberal Course- Mathematics- I

MM:100 (Internal 20 , External 80)

## Course Content:

### Part I: SYMBOLIC LOGIC AND SET THEORY

Unit 1 Statements : negation, conjunction, disjunction; **implication**, converse and contrapositive; necessary and sufficient conditions; types of proofs, mathematical induction and deduction, truth tables **switching circuits**.

Unit 2 Sets, operations on sets, distributive laws, De Morgan's laws, power set, Cartesian Product.

Unit 3 Relations : **equivalence relations and equivalence classes**, partitions of a set; partial order relations (in particular **divisibility and set inclusion**), chains and lattices.

Unit 4 Mappings, injective, surjective and bijective **mappings**; inverse of a mapping, composite of mappings.

Unit 5 Denumerable and **non-denumerable** sets, cardinality.

Unit 6 Permutations and combinations.

### Part II :Elementary Algebra.

Unit 1 Various representations of complex numbers; **Algebra of complex numbers**; De Moivre's theorem and its applications.

Unit 2 **Theory of polynomial equations**: relation between the roots and coefficients.

Unit 3 Definitions and operations on **matrices over  $\mathbb{R}$  and  $\mathbb{C}$** , special types of matrices; determinant of square matrix, **properties of determinants**; adjoint and inverse of a square matrix, rank of a matrix.

Unit 4 Systems of linear equations; characteristic equation, characteristic roots, Cayley Hamilton Theorem.



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### **Part III : Vectors and Analytic Geometry**

Unit 1 Vectors, scalar and vector products; triple products, position vector and applications of vectors to geometry, gradient, divergence and curl.

Unit 2 Straight lines in two dimensions, pair of straight lines; circles and system of circles.

Unit 3 Conics, parabola, ellipse and hyperbola in standard forms, elementary properties.

Unit 4 Sketching of conics.

Unit 5 Planes and straight lines in three dimensions: – direction ratios and direction cosines, equations of planes, straight lines and spheres – Cartesian and vector representations. Basic properties of spheres.

Unit 6 Cones, reciprocal cones; right circular cones; cylinders and right circular cylinders.

### **Part IV :Real Analysis**

Unit 1 Topological structure of  $\mathbb{R}$ , neighbourhoods, open and closed sets, limit points, bounded sets.

Unit 2 Sequences and their convergence, monotonic sequences; the number. Infinite series of positive terms, comparison and ratio tests for convergence of an infinite series.

Unit 3 Limits, continuity and derivability of functions; mean value theorems and Taylors expansions: power series expansions of elementary functions.

### **Part V :Differential Calculus**

Unit 1 Successive differentiation and Leibnitz rule; partial derivatives and Euler's theorem on homogeneous functions.

Unit 2 Monotone functions and inequalities, convexity and concavity of functions; maxima, minima with applications to mensuration, dynamics and economics.

Unit 3 Tangents and normals, curvature, asymptotes and singular points; curve sketching.



Unit 4 Functions of two variables; partial derivatives; maxima and minima of two variables; Langrange's method for constrained optimization (Langrange's method of inderterminate multiplier).

#### READINGS

1. Ballabh, Ram. *A Textbook of Coordinate Geometry*, Prakashan Kendra : Delhi, 13<sup>th</sup> Edition
2. Narayan, Shanti. *Differential Calculus*, S. Chand and Co. : New Delhi, 13<sup>th</sup> Edition.
3. Narayan, Shanti. *Analytic Solid Geometry*, S. Chand and Co. : New Delhi, 15<sup>th</sup> Edition.
4. Singal, M.K. and Asha Rani Singal. *Topics in Analysis*, I. R. Chand & Co.: New Delhi, 2000, 6<sup>th</sup> Edition.
5. Singal, M.K. and Asha Rani Singal. *Algebra*, R. Chand and Co.: New delhi, 22<sup>nd</sup> Edition.



# Paper-XI ( D ): Liberal Course- Physics- I

MM:100 (Internal 20 , External 80)

## Course Content:

### Part-A Theory (80 Marks)

**Unit 1 Mechanics :** scalars and vectors, addition of vectors, Newton's laws of motion, forces and pseudo-forces, work-energy theorem, conservative forces, conservation of energy, conservation of linear momentum, centre of mass, particle collisions (in 2 dimensions). Rotational motion, torque and angular momentum, Conservation of angular momentum. Law of gravitation, inertial and gravitational masses, motion of planets and satellites, Kepler's laws.


**Unit 2 Oscillations :** free oscillations with one degree of freedom, damped oscillations, forced oscillations, resonance and Q factor, combination of two harmonic motions.

**Unit 3 Wave optics :** wave equation, travelling and standing waves, superposition of waves, phase and group velocity. Coherent sources and interference, Young's double slit experiment, interference in thin films.,Description of diffraction by a single slit, double slit and diffraction grating. Polarised and unpolarised light, linear and circular polarization; polarization by reflection.

**Unit 4 Electricity, Magnetism and Electromagnetic theory :** review of laws of electricity and magnetism – conservation of charge, Coulomb's/Gauss' Law, non-existence of magnetic monopoles, Ampere's law, Faraday's law. Displacement current, Maxwell's equations (in integral form).

Electromagnetic waves. Light as an electromagnetic phenomenon, Transmission lines, Optical fibers.

**Unit 5 Equilibrium statistical mechanics :** review of laws of Thermodynamics: Classical statistics-Maxwell-Boltzmann distribution. Quantum statistics : Fermi-Dirac and Bose – Einstein distributions and their properties.



**Part-B PRACTICAL : AT LEAST TWO FROM EACH GROUP (20 Marks internal)**

**Group I : Mechanics**

1. Study of damped harmonic oscillator – Q factor.
2. Coupled pendulums.
3. Moment of inertia of irregular bodies.
4. Experiments with a loaded vertical spring.

**Group II : Optics**

1. Wavelength of sodium light by Newton's rings.
2. Use of spectrometer – determination of  $\mu$  of glass prism.
3. Diffraction grating – determination of  $\mu$  of sodium light.
4. Polarimeter – specific rotation of cane sugar solution.

**Group III : Electricity and Magnetism**

1. Study of LCR circuit.
2. Determination of resistance and its variation with temperature of Carey Foster's bridge.
3. Determination of L by Anderson's bridge.
4. Determination of high resistance by leakage method.

**Reading:**

1. Herbert Goldstein, Classical Mechanics, Pearson publication, New Delhi.
2. I.M. Rae, Quantum mechanics, CRC Press.
3. David Morin, Electricity & Magnetism, Cambridge University Press.
4. Satya Prakash, Electricity & Magnetism, Pragati Edition.
5. W. Saslow, Electricity, Magnetism and Optics, Academic Press.
6. Electricity & Magnetism, P.F. Killy, Cengage.
7. M. Ghosh, B. Bhattacharya, A Text book of Oscillations, waves and acoustics, S. Chand.
8. Satya Prakash, Vinay Dua, oscillations, waves and acoustics, Pragati Edition.
9. P.K. Mittal, Oscillation, waves and acoustics, I.K. International Pub. House.

# Paper-XI ( E ): Liberal Course- Chemistry- I

MM:100 (Internal 20 , External 80)

## Course Content:

### PART I : INORGANIC

Unit 1 **Multi electron system** : Pauli's exclusion principle, Hund's rule of maximum multiplicity, Aufbau principle and its limitations; energy level diagrams.

Unit 2 **Periodic table** : modern periodic table, periodicity in properties of elements, atomic, ionic and covalent radii, ionization energy, electron affinity, screening effect, electro negativity, metallic and non-metallic character.

Unit 3 **Chemical bonds and molecules** : shapes of simple molecules, bond energy, bond length, types of bonding, lattice energy, Born-Haber cycle, Fajan's rule, dipole moment, metallic bond, hydrogen bond, resonance and hybridization.

### PART II : ORGANIC

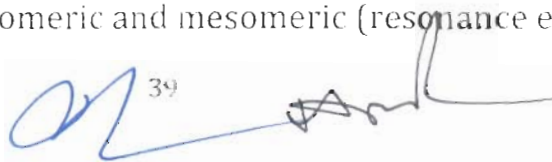
The following topics are to be dealt with keeping in mind the introduction to the basic principles as applied to carbon compounds, illustrated with suitable examples.

#### Unit 1 (a) **Criteria of purity and purification of organic compounds**

- (i) Melting point and boiling point.
- (ii) Crystallisation, sublimation, distillation (simple, steam, fractional, under reduced pressure)
- (iii) Chromatography – paper and thin layer.
- (b) Tetrahedral Concept : Catenation, hybridisation –  $sp$ ,  $sp^2$  and  $sp^3$ , nomenclature (IUPAC notation).

#### Unit 2 **Concepts in organic reaction mechanism**

- (a) Covalent bond, homolysis, heterolysis, free radicals, ionic species, carbanion, carbocation electrophile and nucleophile.
- (b) Inductive, electromeric and mesomeric (resonance effect).



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- (c) Aromatic character – Huckel's rule applied to the hydrocarbons (e.g. : benzene, polynuclear and heterocyclic compounds).

### Unit 3 Isomerism

- (a) Structural Isomerism (chain, positional & functional)
- (b) Stereoisomerism (i) geometrical (cis and trans) (ii) optical (symmetric and asymmetric carbon atom), optional activity, racemic mixture and resolution.

## PART III : PHYSICAL

- Unit 1 (a) **Gases** : characteristics of gases, ideal gases, gas laws, deviation from ideal behavior, Van der Waal's equation (no derivation but explanation regarding a and b, critical phenomenon (no derivation) and liquefaction of gases.

- (b) **Liquids** : difference between gases and liquids on the basis of their molecular structure, vapour pressure of liquids, relationship between vapour pressure and boiling point, surface tension, viscosity, their experimental determination and applications.

- Unit 2 (a) **Chemical Kinetics and Chemical Equilibrium** : rate of a reaction, law of mass action, effect of temperature, concentration and catalyst (qualitative treatment). What is chemical equilibrium, equilibrium law and factors influencing equilibrium states.

- (b) **Photochemistry** : absorption of light, Lambert – Beer's Law, Laws of Photochemistry, phosphorescence and fluorescence.

Unit 3 **Ionic equilibria and conductance** : Ostwald's Dilution Law, ionic product of water, pH value, theory of acid – base indicators, buffer solutions, buffer range and capacity, equivalent and molar conductance, Kohlrausch's law of independent migration of ions, variation of conductance and with concentration for weak and strong electrolytes. Hydrolysis of salts (only qualitative treatment). Applications of conductance for determining solubility product of water etc., conductometric titrations.





## PRACTICAL : 20 MARKS (Internal)

(A)**Project Work** : Each student shall prepare a project which is innovative and application oriented as approved by the teacher.

(B)**Laboratory Work** : Integrated experiments involving the following aspects such as laboratory techniques, qualitative and quantitative analysis; Some physical experiments using simple compounds such as benzoic acid, copper sulphate and salicylic acid (any 2 of them) and subjecting them to various processes.

## PHYSICAL EXPERIMENTS

- (i) Determination of surface tension of (i) Pure liquids (ii) Binary mixtures of liquids by Stalagmometer.
- (ii) Measurement of Viscosities of (i) Pure liquids (ii) Binary mixtures of liquids by Ostwald's viscometer.
- (iii) Measurement of pH and pH papers/pH meter of buffer solutions (acidic & alkaline).
- (iv) To study the kinetics of the reaction between  $\text{Na}_2\text{S}_2\text{O}_3$  and  $\text{HCl}$  using initial rate method.

## READINGS

### *Inorganic Chemistry*

1. Cotton, F.A. and Wilkinson, G. *Advance Organic Chemistry*, John Wiley and Sons : Sussex, 1988 Fifth Edition.
2. Day, M. and J. Selbin. *Theoretical Inorganic Chemistry*, East West Press : Delhi, 1972.
3. James E, Huhey, et.al. *Inorganic Chemistry*, Harper Collins : London, 1993.
4. Lee, J.D. *A New Concise Inorganic Chemistry*, English Language Book Society, Van Nostrand Reinhold International : London, Fifth Edition, 1996.
5. Liptrot, G.F. *Modern Inorganic Chemistry*, ELBS, Bell & Harper Collins Educational : London, 1983.



6. Madan, R.D. and Saty Prakash. *Modern Inorganic Chemistry*, S. Chand and Co. : New Delhi, 1990.

7. Mohan, Bruce H. *Inorganic Chemistry*, Narosa Publishing : New Delhi, 1990.

*Organic Chemistry*

1. Bahl, R.S. and Srun Bahl. *Advanced Organic Chemistry*, S. Chand and Co. : New Delhi, 1990.

2. Bhutani, S.P. *Selected Topics in Organic Chemistry*, Vol. I, Vishal Publications : Delhi 1986.

3. Finar, I.L. *Organic Chemistry*, Vol. I, The Fundamental Principles, Longman Group : Essex, 1973.


4. Finar, I.L. *Organic Chemistry*, Vol. II, Stereochemistry and the Chemistry of Natural Products, 1975, Longman : Harlow, 1975.

5. March, Jerry. *Advanced Organic Chemistry : Reactions, Mechanisms and Structure*, Fourth Edition, Wiley Eastern Ltd. : New Delhi, 1992.

6. Morrison, R.N. and Boyd, R.N. *Organic Chemistry*, Prentice Hall India : New Delhi, 1996, Sixth Edition.

7. Norman, R.O.C. and Waddington D.J. *Modern Organic Chemistry*, Collins Educational, Bell & Hyman : London, 1983.

8. Sykes, Peter. *A Guide Book to Mechanism in Organic Chemistry*, Orient Longman : Bombay, 1971.



## Paper-XI ( F ): Liberal Course- Biology- I

MM:100 (Internal 20 , External 80)

### Course Content:

#### Unit 1 Diversity of Life

1. **Five kingdoms of life** : basis of classification : Monera, Protista, Fungi, Plantae and Animalae.
2. **Virus** : structure, reproduction and its relation to man.
3. **Monera** : structure, reproduction and its relation to man, e.g. Bacteria and Cyanobacteria.
4. **Protista** : structure, reproduction and its relation to man, e.g. Clamydomonas, Paramoecium.
5. **Fungi** : structure, reproduction and its relation to man, e.g. Aspergillus, mushroom.
6. **Plantae**
  - a. Structure and reproduction in Algae (e.g. Sargassum) Bryophyta (e.g. Ricca & Moss) and Pteridophyta (e.g. Pinus)
  - b. **Angiosperm** : Structure and reproduction, modifications (stems, roots and leaves).
7. **Animalae**
  - a. **Non-chordata**
    1. Porifera : Structure and reproduction, (Sycon)
    2. Cnidaria : morphology and reproduction (Coral)
    3. Platyhelminthes : morphology, reproduction and its relation to man, (tapeworm)

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4. Aschelminthes : morphology and reproduction, ( Ascaris)
5. Annelida : morphology and reproduction, (Earthworm)
6. Arthropoda : morphology and reproduction, (cockroach)
7. Echinodermata : morphology and reproduction, (starfish)

**b. Chordata**

1. Pisces : generalized account of fishes
2. Amphibia : e.g. Frog
3. Reptilia : e.g. Lizard
4. Aves : a general account of birds
5. Mammalia : e.g. rabbit, rat and man

**Unit 2 Origin of life :** Brief History, chemical evolution of first cell. Heterotrophs and Autotrophs, advent of oxygen.

**Unit 3 Evolution :** Modern theory of evolution, examples of Natural Selection e.g. colouration, mimicry, industrial melanism, insecticidal resistance, mineral tolerance, human evolution, species and modes of speciation.

**PRACTICALS : 20 marks (internal)**

1. Specimens study :Paramoecium, Ascaris, Pila, Sea Urchin, Sargassum (alga)
2. Study photographs: (e.m.) T-Phage, TMV (Tobacco Mosaic Virus) (e.m.) bacteria
3. Temporary mounts
  - Sponge : gemmules and spicules
  - Cockroach : mouth parts, trachea
  - Earthworm : septal and pharyngeal nephridia
4. Slides of bacteria from pond water and curd
5. Structure and movement of Euglena from pond water and Chlamydomonas from rain water puddles.

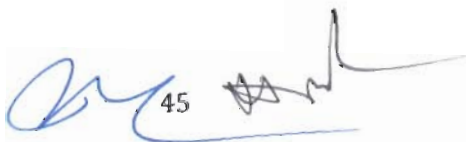


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6. Mushroom : section cutting, study coloured photographs, grow *Aspergillus* and examine microscopically.
7. Riccia and moss : study details
8. Fern : section cutting (true and false indusium)
9. Pinus : section cutting
10. Any two families : Solanaceae, Graminae (Arecaceae)
11. Study of any angiosperm, slides of T.S. anther and L.S. ovule.

## READINGS

1. Adhikari, S. and Sinha, A.K. *Fundamentals of Biology of Animals*, Vol. 3, New Central Book Agency : Calcutta.
2. Alexander, R. McNeill. *Animals*, Cambridge University Press : Cambridge. 1990.
3. Audersirk, G. and Audersirk, T. *Biology – Life on Earth*, MacMillan : New York, 1992.
4. Ayyer, Ekambaranatha, M. *A Manual of Zoology Part I and II*, S. Viswanathan : II McNichols Road, Chetput, Madras, 1966.
5. Cleveland, P. Hickman, *Integrated Principles of Zoology*, The C.V. Mosby Co. : London 1970.
6. Dhami and Dhami. *Invertebrates*, R. Chand & Co. : New Delhi, 1985.
7. Dhami and Dhami. *Vertebrates*, R. Chand & Co. : New Delhi, 1972.
8. Easton, T.A. and Rischer, C.E. *Bioscorpe*, Charles E. Merrill Pub. Co. : Ohio, 1995.
9. Goodnight, C.J., Goodnight M.C. and Grey, P. *General Zoology*, Oxford : New Delhi 1964.
10. Raven, P.H. and Johnson, G.B. *Biology*, Brown Publishers, London, 1996.
11. Robinson, M.A. and Wiggins, J.F. *Animal Types (Invertebrates)*, Hutuchinson Education
12. Weisz, Paul B. *Science of Biology*, McGraw Hill : New York, 1967.


  
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## Paper-XI ( G ): Liberal Course- History- I

MM:100 (Internal 20 , External 80)

### Course Content:

Unit 1 **Understanding History** : the conceptual basis of history as a discipline, the question of historical objectivity and truth.

**Interpreting Sources** : the nature of historical source (archaeological, numismatic, epigraphic, literary, written/oral), problems of interpretation.

Unit 2 **Hunting Gathering** : Paleolithic, Mesolithic, Neolithic.

Unit 3 **Emergence of States** : monarchies, republics.

Unit 4 **Feudalism** : the debate of feudalism; the European case and the Indian experience.

Unit 5 **Renaissance and the process of secularization** : transformation of religion and the emergence of the ideals of rationality and reason.

Unit 6 **The Democratic Revolutions** : the French case. End of the ancient regime; the nature and the legacy of the revolution.

### READINGS:

1. Allchin, B. and Allchin, R. *Civilization in India and Pakistan*, Select Book Service Syndicate : New Delhi, 1988.
2. Basham, A.L. *The Wonder That was India*, Sidgwick & Jackson : London, 1954.
3. Childe, V. Gordon. *What happened in History*, Penguin : Harmondsworth, 1954.
4. Childe, V. Gordon, *Social Evolution*, Fontana : London, 1961.
5. Sahlins, M. *Stone Age Economics*, Tavistock Pub. : London, 1978. Chapter 1, 2 and 3.
6. Sahlins, M. *Tribesman*, Prentice Hall : Englewood Cliffs, 1968.



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7. Dreckmeir. *Kingship and Community in Early India*, Stanford University Press : Stanford, 1962.
8. Sharms, R.S. *Aspects of Political Ideas and Institutions in Ancient India*, Motilal Banarsidas : Delhi, 1968.
9. Andereson, Perry. *Lineages of the Absolutist State*, Verso : London, 1979, pp.15-59, 195-238, 397-431.
10. Anderson, Perry. *Passages from Antiquity to Feudalism*, NLB : London, 1974.
11. IGNOU, *India from Mid 18<sup>th</sup> to Mid 19<sup>th</sup> Century*, EHI-05, Block-1, IGNOU : New Delhi, 1993.



# **Paper-XI ( H ): Liberal Course- Political Science I**

**MM:100 (Internal 20 , External 80)**

## **Course Content**

### **Unit 1 Introduction to the study of Politics**

1. Perspectives on :
  - a. Power Relations, conflicts and conflict resolution;
  - b. Social change and social movements.
2. Methods of the study of politics :
  - a. Ethics and philosophy – Aristotle and Hegel;
  - b. Institutions and legality – Mill;
  - c. Materialist interpretation of history – Marx and Mao;
  - d. Behaviouralism;
  - e. Comparative politics – Almond, Frank and Wallerstein.

### **Unit 2 Important theoretical concepts**

Rights, liberty, equality and justice – in the light of the following :

- a. conflict between nature and law in ancient and modern thought;
- b. human rights;
- c. the feminist critique of theories of justice and rights.

### **Unit 3 Society, community and politics**

- a. polis and the nature of the state in Greek antiquity;
- b. monarchy and changing nations of the state;
- c. civil society and the modern nation-state;

- d. the state in post-colonial societies.

#### Unit 4 Nationalism

1. In Europe :
  - a. emerging identities in the nineteenth century;
  - b. the rise of fascism in the 1920s and 1930s;
  - c. the debates of the second-International on the right of nationalities to self determination;
  - d. new trends in nationalism in the 1980s and 1990s.
2. In the colonies, emerging from different anti-colonial struggles :
  - a. Peaceful transfer of power – India, Nigeria;
  - b. Violent revolutionary struggles – Angola, Algeria;
  - c. Political visions – Gandhi, Fanon, Cabral, examples from South-East Asia.

#### Unit 5 Imperialism

- a. The industrial revolution and imperialism;
- b. the new world economic order in the age of Bretton Woods and Comecon; the imperialism of aid and development;
- c. its character after the 1950's – Latin America, Vietnam and South Africa.

#### READINGS:

1. Birch, Anthony H. The Concept and Theories of Modern Democracy, Routledge and Kegan Paul : London, 1993.
2. Gamble, A. An Introduction to Modern Social and Political Thought, MacMillan : London, 1981.
3. Flatman, R. (ed.), Concept in Social and Political Philosophy, MacMillan : London, 1993.



4. Manning, D.J., Liberalism, Open University Press : Milton, Keynes, 1976.
5. Mendus, S. Losing the Faith : Feminism and Democracy, in J. Dunn, (ed.) Democracy : The Unfinished Journey 508 B.C. to A.D., Oxford University Press : Oxford, 1967.
6. Quinton, A. (ed.), Political Philosophy, Oxford University Press : Oxford, 1967.
7. Keane, J. Democracy and Civil Society, Routledge : New York, 1988.
8. Parrar, C. Ancient Greek Political Theory as a Response to Democracy, in J. Dunn, (ed.) Democracy : The Unfinished Journey - 508 B.C. to A.D., Oxford University Press : Oxford, 1993.
9. Barrington, Moore. S. Jr. Social Origins of Dictatorship and Democracy, Lord and Peasant in the making of the Modern World Penguin : London, 1966.
10. Birch, Anthony H. The Concepts and Theories of Modern Democracy. Routledge and Kegan Paul : London, 1993. Chapter 2.



## Paper-XI ( I ): Liberal Course- Geography I

MM:100 (Internal 20 , External 80)

### Course Content

**Unit 1 Understanding basic concepts** : location, area, flows/network, space and environment; scope of physical geography.

**Unit 2 Lithosphere** : geological time scale; internal structure of earth; rocks and their types; folds and faults; earth quakes and volcanoes; plate tectonics isostasy, theory of plate tectonics, movement of major plates and their consequences; development of landforms and role of different agencies.

**Unit 3 Atmosphere** : structure and composition of atmosphere; insolation – factor and spatial distribution; pressure – factors and spatial distribution; general circulation of atmosphere – world wind belts, monsoons and cyclones; classification of climate – Koppen’s classification.

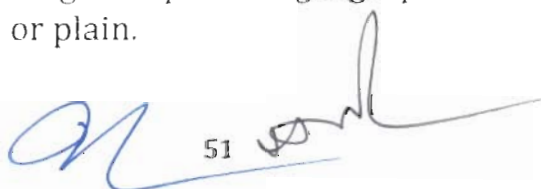
**Unit 4 Hydrosphere** : temperature, salinity and density of ocean water – factors influencing their spatial variation in oceans; movements in ocean waters – waves, currents and tides; major ocean currents.

**Unit 5 Soils and vegetation** : soil – formation, classification and general distribution of major soil types; vegetation – factors, classification of vegetation and a general distribution of major vegetation types; interrelationship of climate, soils and vegetation in (a) semiarid (b) temperate and (c) equatorial region.

**Unit 6 Understanding Maps and Diagrams:** (a) scales; (b) cardinal points; reading and measuring; and (c) projection-properties and types; topographical maps: identification numbers and interpretation of physical features; weather maps; conventional symbols and interpretation of weather maps; instruments used to measure temperature, pressure, humidity and precipitation; identification of rocks.

### Project work : 20 Marks (Internal)

Techniques of report writing; a report on geographic study of any region – mountain, desert, coastal or plain.

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## READINGS:

1. Barry, R.G. and R.J. Chorley. Atmosphere, Weather and Climate, Methuen, London, 1976.
2. Chorley, R.J. and P. Hagget. (ed.) The Changing Nature of Geography, Methuen, London, 1973.
3. King, C.A.M. Introduction to physical and Biological Geography, English Language Book Society : London, 1975.
4. Monkhouse, F.J. and H.R. Wilkinson. Maps and Diagrams : Their Compilation and Construction, Metheun : London, 1971.
5. Sharma, R.C. and M. Vatal. Oceanography for Geographers, Chaitanaya : Allahabad, 1980.
6. Strahler, A.N. A Modern Physical Geography, Wiley : New York, 1983.
7. Tikkha, R.N. Bhautik Bhugaol, Kedar Nath Ram Nath : Meerut, 1989.





## Paper-XI ( J ): Liberal Course- : Economics I

MM:100 (Internal 20 , External 80)

### Course Content

Unit 1 Role of price mechanism : market demand & market supply.

Unit 2 Law of demand, Demand curve : Marshallian utility analysis and indifference curve approach. Elasticity of demand, Revenue curves – TR, MR, AR.

Unit 3 Production : factors of production and their combinations; law of returns; economics & diseconomics of scale; cost curves. Constituents of cost, wages, rent, profits, interest, concept of opportunity cost.

Unit 4 Objectives of a firm-profit maximization, sales maximization, cost minimisation, other non profit objectives. Market equilibrium conditions under perfect competition and imperfect competition (details of monopoly, oligopoly, monopolistic competition not required) objectives of non profit organizations.

Unit 5 International trade : principle of comparative advantage, terms of trade.

Unit 6 National product : structure and concept, circular nature of income flows; methods of estimation; income, product and expenditure; problems of estimation.

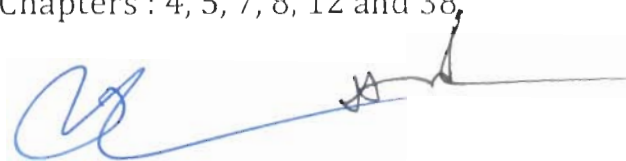
Unit 7 National income estimation in India : composition of GDP; significance of various aggregates and their interrelationships.

Unit 8 Difference between microeconomics and macroeconomics. Determination of aggregate demand and aggregate supply to the resultant equilibrium income and employment. The concept of multiplier.

### READINGS

1. Becherman, W. An Introduction to National Income Analysis, University Book Store : Seattle, 1984. Chapter 2.

2. CSO. National Accounts Statistics, Government of India, CSO : New Delhi, Latest Issue.
3. CSO. National Accounts Statistics, Source and Methods. Government of India, CSO : New Delhi. Latest Issue.
4. Lipsey, R.G. An Introduction to Positive Economics, English Language Book Society : London, 1995.
5. Ray, N.C. An Introduction to Micro Economics, Macmillan : Delhi, 1975.
6. Sumuelson, Paul A. and William D. Nordhaus. Economics, McGraw Hill : New York, 1989. Chapters : 4, 5, 7, 8, 12 and 38.

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## **B: Practical Activities Second Year:**

### **(MM: 100 Internal)**

#### **A: Observing Children : MM:30**

To acquire an understanding of children's development in different socio-cultural, political, economic, familial and personal contexts, establish links between developmental constructs and principles, and psycho-social realities of growing children and to develop skills in observing interviewing children, recording and reflective analysis. Students are required to observe a minimum of 4-5 children in each of the age-groups of 3-5 years and 6-8 years. Children can be observed in naturalistic settings such as a play-ground or park in the neighbourhood. Observations time would be for about one hour, adding up to a total of 10 hours for each age-group. Students are required to keep detailed records of their observations. Students must learn to discuss the difference between raw data and the observations and interpretations thereof. It is expected that discussions amongst peer group and with faculty supervisors during the time allotted for this, would enable students to evolve frameworks of analyzing the observational data. Supervisors will facilitate the process of analysis and interpretation and help establish links with theory.

#### **B: Self-development Workshops MM: 30**

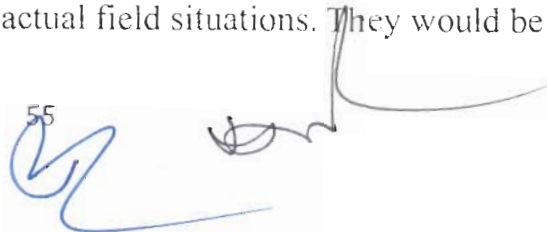
To explore the self for greater awareness, personal growth , reflective thinking and to develop insight in to various dimensions of the self-perception and assumptions about the attitude towards people , children in particular and social issues, in the institution a series of workshops on following themes should be conducted over the year under the guidance and supervision of trained professionals :

- Exploring the self
- Understanding our own childhood
- Understanding the gap in perception between child and adult
- Competition and cooperation

Each student will attend 5 full day workshop and will prepare the report of the workshops.

#### **C: Sports and Physical Education :MM:20**

Students will participate regularly in sports activities and will prepare reports of two sports activities on the basis of actual field situations. They would be also

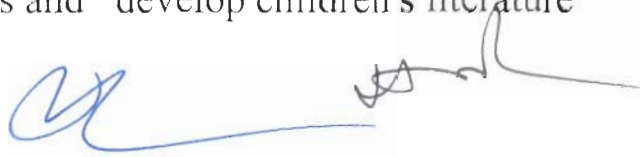


provided inputs on psychological interaction and first-aid for actual situations on the field.

**D: Academic Enrichment Activities : Story Telling and Children's literature : MM:20**

Students will do the following activities:

- Examine and develop a criteria of evaluating children's literature including picture books ,folk tales, activity books fiction and non fiction
- Develop story- telling skills and creative use of children literature
- write children's stories and develop children's literature

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## B.El.Ed. Third Year

### A: Theory Papers Third Year

### Paper-XII: Basic Concepts in Education

MM:100 (Internal 20 , External 80)

#### Course Content

Unit 1 Philosophical and sociological perspectives : basic assumptions about human nature, **knowledge** and learning.

Unit 2 **Knowledge** : distinction between 'body of knowledge' and the child's construction of **knowledge**. Knowledge in the context of curriculum, syllabus and textbooks; **school knowledge** and children's experiential knowledge; universal and **local** facets of knowledge.

Unit 3 The learner : the child as learner; the individual child and the age-group; home and school; socialization and learning; activity and experience.

Unit 4 The teacher : teaching as a professional activity; **teacher and** parents; teacher and the curriculum; teacher and **society**.

Unit 5 General introduction to progressive thought in **education** : the tradition of Rousseau – Pestalozzi, Montessori, Dewey and **Susan Isaacs**. Progressive educational thought in the Indian context : **Tagore**, Gandhi, Gijubhai and Krishnamurty. Detailed study of Tagore's essay '**My School**' and Dewey's essay 'My Pedagogic Creed'.

Unit 6 Societal context of education : equality, authority, **conflict and** change.

#### READINGS

1. Dewey, **Joh**. 'My Pedagogic Creed', in D.J. Flinders and S.J. Thorton (eds.) The **Curriculum** Studies Reader, Routledge : **New** York, 1997.



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2. Letter to A Teacher : from the children of the school of Barbiana, Sahitya Chayan : New Delhi.
3. Margaret, K.T. The Open Classroom, Orient Longman : New Delhi, 1999.
4. Moore, T.W. Educational Theory : An Introduction, Heinemann : U.K., 1974.
5. Tagore, Rabindranath. Personality : Lectures delivered in America, Mamillan and Co. : London, 1921, Chapter IV & My School, pp. 111-150.
6. Warner, Sylvia Ashton. Teacher, Touch Stone Books : 1400 Second Street Baker City, 1986.





## Paper-XIII: School Planning, Management

MM:100 (Internal 20 , External 80)

### Course Content

Unit 1 Organisation and management of school education : role of Centre, State and local bodies; sources of funding.

Unit 2 The school as a system I : induction, training and teacher support programmes; planning the school curriculum-academic, co-curricular and sports; community involvement.

Unit 3 The school as a system II : types of schools. The management committee and its functions; school administration; staffing pattern; the school budget; annual planning; documentation and information systems; physical infrastructure requirements; selection of materials and equipment for the school and selection of suppliers.

Unit 4 Maintaining standards : physical and psychological needs of children, teaching and non-teaching staff in a school; developing a collaborative perspective. Staff supervision – models and application : evaluation and feedback; establishing accountability.

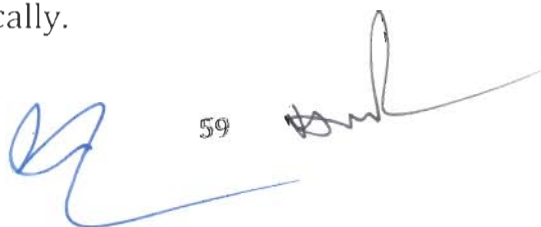
Unit 5 School Leadership and Management

- Administrative Leadership
- Team Leadership
- Pedagogical Leadership
- Leadership for change

### PROJECT MM: 20 INTERNAL

(A) Case study of an “Existing School” or “Planning for a New School” (i) objectives (ii) vision of the school (iii) Strategic population (its needs, whether first or second generation learners, socio-economic background etc.); achieving targets realistically.

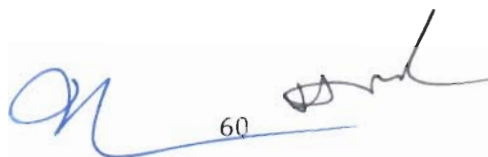
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(B) A group project on the status of education in a particular area (collating and interpreting data about school enrolment, retention, availability of facilities etc.)

#### READINGS

1. Abbott, Lesley and Rosemary Rodger. (eds.) Quality Education in the Early Years, Open University Press : Buckingham, USA, 1994.
2. Aitken, Robert and Charles Handy. Understanding Schools as Organisations, Penguin Books : England, 1990.
3. Austin, Lucille N. Basic Principles of Supervision, Social Casework 33, December, 1952, pp. 411-419.
4. Batra, Sunil, "From School inspection to School Support : a case for transformation of attitudes, skills, knowledge, experience and training", Paper Presented at Conference on Management of School Education in India, NIEPA, Delhi, 1998.
5. Craige, Ian. (ed.) Managing the Primary Classroom, Longman : London, 1987.
6. Cross, Rod. The Role of the Mentor in Utilising the Support System for the Newly Qualified Teacher, School Organisation, March, 1955 : 15(1).
7. Davies, B. and Linda Ellision. Decentralising Curriculum Reform, School Organisation, March, 1996 : 16(1).
8. Delhi School Education Act and Rules, 1973, Latest Edition.
9. Frith, Donald. (ed.) School Management in Practice, Longman Group Ltd. : London, 1985. Chapter 3, 4, 5, 7 and 9.
10. McHugh, Marie and McMullan. Head teacher or Manager? Implications for Training and
11. National Policy on Education 1986, Programme of Action 1992. MHRD, Government of India
12. Sixth All India Education Survey, NCERT : New Delhi, 2000.
13. Towards an Enlightened and Humane Society, Report of the Committee for Review of
14. Varghese N.V. (ed.) Antriep Newsletter, Vol. 2, No. 2, July-December 1997, NIEPA : New Delhi



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## Paper-XIV: Logico Mathematics Education

MM: 50 (Internal 10 , External 40)

### Course Content

**Unit 1** Nature of children's logico-mathematics thinking : theories of Piaget, Bruner, Dienes and Vygotsky; intuitive mathematics; mental mathematics; cultural differences and specificities.

Unit 2 Language and mathematics : language of mathematics.

Unit 3 Critical study of some pedagogic considerations with reference to learning theory and practice : readiness; consolidating mental arithmetic; circular reactions (ref. Piaget); zone of proximal development (ref. Vygotsky); organizing and structuring learning tasks; group and individual activity; drill; memorization and algorithmization.

Unit 4 Mathematics in the context of schools : text-books, curricula and classroom practices; nature of mathematics – conceptual and procedural; area (space, measurement, operations etc.); research on children's learning in specific areas; errors; feedback; testing and evaluation; the hidden curriculum; mathematics phobia and failure.

Unit 5 Content specific pedagogy : number, place value, fractions, decimals, role of readymade kits.

### READINGS

1. Clements, D.H. and M.T. Battista, Geometry and Spatial Reasoning, in P.A. Grouws (ed.), Handbook of Research on Mathematics Teaching and Learning, Reston : V.A. 1992.
2. IGNOU, Learning Mathematics, LMT-01, IGNOU : New Delhi 2001.
3. National Council of Teachers of Mathematics (NCTM), Curriculum and Evaluation Standards for School Mathematics, NCTM, Reston: V.A. 1989.
4. National Council of Teachers of Mathematics (NCTM), Professional Standards for Teaching Mathematics, NCTM, Reston : V.A. 1989.
5. National Council of Teachers of Mathematics (NCTM), Assessment Standards for School Mathematics, NCTM, Reston : V.A. 1989.
6. NCTM Yearbook, Communications in Mathematics, K-12 and Beyond, NCTM, Reston : 1986.

## Paper-XV: Pedagogy of Environmental Studies

MM:50 (Internal 10 , External 40)

### Course Content

Unit 1 Concept of Environmental Studies its evolution and significance as a curricular area at primary level; environmental studies and environmental education; its scope-integration related to the physical, social, historical and cultural component.

Unit 2 Basic considerations in developing curriculum in environmental studies, maxims of teaching differences in approaches to the construction and transaction of curriculum at classes I and II and classes III to V; a review of different sets of curricular materials including text books.

Unit 3 Understanding the method of science : process approach in EVS; planning for and organization of teaching-learning activities; unit and lesson planning; role of inquiry, experiment, discussion, drama etc; evaluation and testing.

### PRACTICAL WORK TO BE UNDERTAKEN :

#### (MM:10 INTERNAL)

- (i) Organising and planning an excursion; learning how to make observations and recording conducting surveys.
- (ii) Using equipment and materials : films, reports, documents, newspapers, local maps, atlas, wall charts; map drawing and reading weather charts; making charts, diagrams and models.
- (iii) Collection and presentation of specimens : leaves, rocks, stamps, flags, news items etc.
- (iv).Undertaking a project e.g. planting and nurturing of useful trees plants.

### READINGS

1. Centre for Cultural Resource and Training, Environmental Education and Art Activities, CCRT : New Delhi, 1983.

2. Centre for Environmental Education. The Green Teacher : Ideas, Experiences and Learnings in Educating for the Environment, CEE: Ahmedabad, 1997.
3. CEE. Joy of Learning, Handbook for Environmental Educational Activities, CEE: Ahmedabad.
4. Collette, A.T. and E.L. Chiapetta. Science Instruction in Middle and Secondary Schools, Times Mirror/Mosky College Publishing : St. Louis, 1984.
5. Driver, R., E. Guesene and Tiberghien. Children's Ideas in Science, Open University Press : Milton Keynes, 1985.
6. Hardeovik, S.W. and Hottgreive, D.E. Geography for Educators : Students, Themes and Concepts, Prentice Hall : UK, 1996.
7. Harlan, J. Science Experience for the Early Childhood Years, McMillan : New York, 1995.
8. Martin R. et. al., Science for All Children, Allyn and Bacon : New York, 1998.
9. NCERT. National Curricular Framework for Elementary and Secondary Schools, NCERT : New Delhi, 1988 and 2001.



## **Paper-XVI: Liberal Course (Optional II)\***

**(Any one of the following papers )**

\* Option will be offered as per the availability in respective colleges.

## **Paper-XVI (A) Liberal Course English- II**

**MM:100 (Internal 20 , External 80)**

### **Course Content**

#### **APPROACHES TO TEXTS**

This paper follows an approach-based structure. While introducing students to various ways of looking at a text, an emphasis is also laid on incorporating some significant writing in English, into the syllabus.

#### **COMPONENTS**

Approaches to texts with which students should be familiar are :

Historical

Psychological

Marxist

Feminism

New Criticism: Structuralism, Deconstruction, Formalism

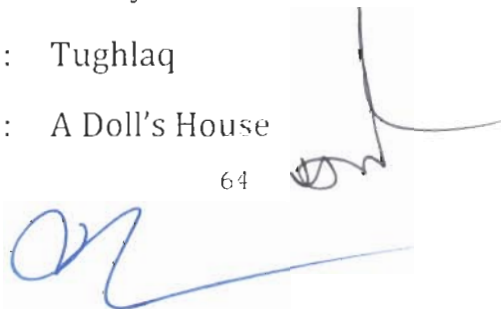
#### **TEXTS**

##### ***Drama : Any Two***

Arthur Miller : All My Sons

Girish Karnad : Tughlaq

Henrik Ibsen : A Doll's House





Bertolt Brecht : The Good Person of Szechwan (Translated by John Willett)

**Novels : Any Two**

V.S. Naipaul : A House for Mr. Biswas

J. Steinbeck : Of Mice and Men

Jane Austen : Pride and Prejudice

Margaret Atwood : The Handmaid's Tale

**Poetry**

Shakespeare : Sonnet No. 130 : My mistress's eyes are nothing like the sun.

John Donne : The Sonnet Rising

Blake : London

Shelley : Song to the Men of England

Langston Hughes : I Too Sing America


Stephen Spender : An Elementary School Classroom in a Slum

Countee Cullen : Incident : Baltimore

Ted Hughes : The Jaguar

Gieve Patel : On Killing a Tree

A.K. Ramanujan : Of Mothers among other things (in Selected Poems)



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## Paper-XVI (C) Liberal Course Mathematics- II

MM:100 (Internal 20 , External 80)

### Course Content

#### PART I : ALGEBRAIC STRUCTURES

Unit 1 Binary operations; commutative and associative operations; identity element and inverse of an element.

Unit 2 Groups, subgroups, cosets and Lagrange's theorem, normal subgroups and quotient groups, homomorphisms, isomorphisms and fundamental theorem; permutation group.

Unit 3 Rings, integral domains and fields, subrings, ideals and quotient rings; ring homomorphisms, isomorphisms and embeddings.

Unit 4 Vector spaces, subspaces; quotient spaces; linear dependence and independence, basis of dimension; study of  $\mathbb{R}$  as a vector space.

Unit 5 Linear transformation; associated matrix, rank and determinant of a linear transformation; minimal polynomial.

#### PART II : INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS

Unit 1 Integration by substitution and by parts; integration of rational, irrational and trigonometric functions, reduction formulae.

Unit 2 Definite integrals and their properties; integral as the limit of a sum and Riemann's approach; area under a curve.

Unit 3 Simple differential equations; differential equations of first order, linear differential equations with constant coefficients. Applications of differential equations to natural and social sciences – Radioactive decay, Newton's law of cooling, population growth and compound growth.

#### PART III : STATISTICAL METHODS

Unit 1 Measures of central tendency, Variability skewness and kurtosis.

Unit 2 Correlation and linear regression.

Unit 3 Sampling techniques based on z,t. F and  $\chi^2$  tests.

#### PART IV : PROBABILITY AND PROBABILITY DISTRIBUTIONS

Unit 1 Approaches to probability; laws of probability, Bayes theorem and its applications.

Unit 2 Random variables, probability distributions and mathematical expectation, EMV criterion in business.

Unit 3 Binomial and Poisson distributions.

Unit 4 Continuous random variables and normal distribution.

#### READINGS

1. Fraleigh, John B.A. First Course in Abstract Algebra, Addison - Wesley : UK, 1989, Fourth Edition.
2. Gupta, S.C. and V.K. Kapoor. Elements of Mathematical Statistics, Sultan Chand & Co.: New Delhi, 1999.
3. Kapur, J.N. and S.K. Gupta. A First Course in Abstract Algebra, R. Chand and Co.: New Delhi, 1976, Fourth Edition.



## Paper-XVI (D) Liberal Course Physics - II

MM:100 (Internal 20 , External 80)

### Course Content

**Unit 1 Introduction of quantum physics:** review of classical physics and its inadequacies. Particle behavior of light-photoelectric effect, X-rays, Compton effect; wave behaviour of matter; de Broglie's hypothesis, wave function; wave and group velocity, uncertainty principle and applications. Energy levels; Franck-Hertz experiment; correspondence principle.

**Unit 2 Quantum mechanics :** Schrodinger's equation in one dimension; time-independent Schrodinger equations transmission through a barrier, particle in a box. Qualitative discussion of hydrogen – like atom, spin exclusion principle.

**Unit 3 Solid state physics:** free electron theory of metals, band theory of solids – Bloch's theorem, Kronig-Penney model (without derivations); metals, insulators, semi-conductors; Fermi energy; intrinsic and extrinsic semiconductors; solid state devices – p-n junction diodes, solar cell, bi-polar junction transistor, uni-polar junction transistor.

**Unit 4 Special theory of relativity :** Michelson-Morley experiment, Einstein's postulates, Lorentz transformations, time dilation and length contraction; relativistic addition of velocities, Relativistic mass, mass-energy relation.

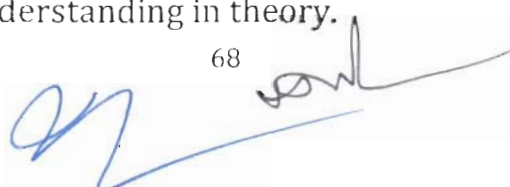
**Unit 5 Nuclear Physics :** nuclear masses and sizes; constituents of the nucleus, binding energy. Radioactive decay, half-life, radioactive series; application-carbon dating; qualitative description of alpha, beta and gamma decay. Nuclear fission, chain reaction; nuclear fusion; source of energy in stars, elementary particles and fundamental interactions

**Unit 6 The Universe :** our galaxy, expansion of the universe-Hubble's Law; Newtonian cosmology; microwave back ground radiation (description).

### PRACTICAL : MM: 20 INTERNAL

(In experiments 1-3, the theory should be done in conjunction with the lab). In addition to the usual laboratory examination, the final examination should have a written component which tests the student's understanding in theory.

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- A. 1. Study of power supply  
2. Study of transistor and its use as amplifier.  
3. Study of OP. amp. and its simple applications,  
B. 4 Project : (About 10-15 laboratory hours duration)

**Readings :**

1. Periya, Pedro, Fundamental of quantum Physics, Springer.
2. Nouredine Zettili, Quantum Mechanics, Wiley.
3. Charlis Kittel, Introduction to Solid State Physics, Wiley.
4. W. Pauli, thory of Relativity, Dover Pub. Inc.
5. Albert Einstein, Relativity, mannu Graphics. (Indian Publication)
6. S.P. Puri, General Theory of Relativity, Pearson.
7. Samuel S.M. Wong, Introduction to nuclear Physics, PHP.
8. John Lilley, Nuclear Physics, Wiley.
9. John Gribbin, Glaxy formation, Springer.
10. Stephen Hawking, the universe in a nutshell, Bantam Press.
11. Simon Singh, Big Bang, Harper Perennial Publication.



## Paper-XVI (E) Liberal Course: Chemistry - II

MM:100 (Internal 20 , External 80)

### Course Content(I)

#### PART I :INORGANIC

Unit 1 Elementary idea of Bronsted-Lowry and Lewis concept of acids and bases : difference between strong and weak acids and bases in terms of equilibrium constants, applications of Arrhenius theory of ionization to weak, mono and polybasic acids; effect of solvent on the strengths of acids and bases-levelling effect of solvent.

Unit 2 Comparative study of elements of zero, s and p block : an elementary idea of general group trends, electronic configuration, atomic radii, inert pair effect, ionization potential, electron-affinity and electronegativity; a brief knowledge of transition and inner transition elements.

Unit 3 Study of some common useful inorganic compounds.

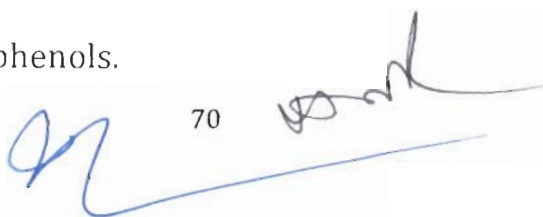
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|---------------------------|------------------------|
| a) Sodium chloride        | b) Sodium hydroxide    |
| c) Sodium carbonate       | d) Sodium bicarbonate  |
| e) Basic lead carbonate   | f) Sodium thiosulphate |
| g) Copper sulphate        | h) Hydrogen peroxide   |
| i) Silver nitrate         | j) Red lead            |
| k) Zinc oxide             | l) Bleaching power     |
| m) Potassium Permanganate | n) Potash alum         |
| o) Gypsum salt            | p) Plaster of Paris    |

#### PART II : ORGANIC

Unit 1 Functional Group : difference between a functional group and a substituent Preparation, physical and chemical properties of compounds containing :

- a) Halo-alkanes and halo-arenes.
- b) alcohols and phenols.

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c) aliphatic carbonyl compounds.

Unit 2 (a) Synthetic and natural polymers : classification of polymers – natural and synthetic polymers, [general preparation of polymers such as Teflon, PVC (poly vinyl chloraide) polystyrene, Nylon 6, 6, terylene, resins].

(b) Brief knowledge of the difference between (i) soaps and detergents (ii) insecticides and pesticides.

(c) Chemistry in Action : chemicals in medicines – analgesics, antipyretics, antibiotics and disinfectants.

Unit 3 Environment and pollution : definition, causes, impact, TLV (Threshold limit value), unit (ppm), synergism and antagonism, various types of pollution (elementary knowledge), environmental segments as atmosphere, lithosphere, biosphere, hydrosphere etc. special stress on depletion of ozone layer and its effects, photochemical smog, green house effect, Acid rain and black rain.

### **PART III :PHYSICAL**

Unit 1 Solutions : Types of solution

(a) Solution of solid in liquid – solubility, effect of temperature on solubility.

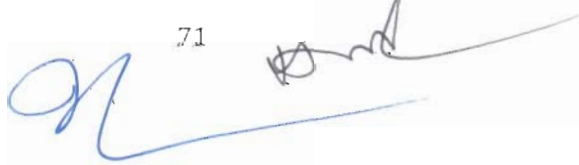
(b) Solution of gas in liquid – Henry's law.

(c) Solution of liquid in liquid – (i) miscible liquids, Raoult's law, ideal solution and non-ideal solution, fractional distillation (ii) partially miscible liquids, critical solution temperatures (iii) immiscible liquids, steam distillation.

(d) Solution on non volatile solutes – colligative properties, lowering of vapour pressure, elevation of boiling point, depression in the freezing point, osmotic pressure and reverse osmosis (only qualitative treatment with no derivations).

Unit 2 Distribution law : partition coefficient definition, limitations, factors affecting the partition coefficient and applications such as solvent extraction.

Unit 3 Thermodynamics : exothermic, endothermic reactions, systems, surroundings, types of systems, states of a system, state functions, process,



types of process, reversible and irreversible, extensive and intensive properties, energy, work, heat capacity, first law of thermodynamics, heat of a reaction at constant pressure and constant volume, Hess's law, Born-Haber Cycle, bond energy and bond dissociation energy. Heat of neutralization and heat of solution.

## **PRACTICAL (II )MM:20 INTERNAL**

### **INORGANIC**

1. Determination of percentage of  $\text{Na}_2\text{CO}_3$  in a sample of washing soda.
2. Analysis of a given sample of water for pH, conductance etc. and determination of its hardness complexometrically.

### **ORGANIC**

1. Detection of extra elements (N, S, Cl, Br, I) in organic compounds, not more than two such elements may be present in a compound.
2. Detection of functional groups in mono functional organic compounds (only qualitative treatment).
3. Abnormal constituents of urine (sugar, ketobodies, proteins etc.)

### **PHYSICAL**

1. Determination of CST for phenol – water system.
2. Determination of heat of neutralization of HCl/NaOH.
3. To study any simple distribution system and determine the value of partition coefficient.

### **READINGS**

1. Bruce, H. Mohan, (University Chem.) Inorganic Chemistry, Narosa Publishing House : New Delhi, 1990.
2. Cotton and Wilkison. Advance Organic Chemistry, John Wiley and Sons : Sussex, 1988, Fifth Edition.
3. Day, M.C. and J. Selbin. Theoretical Inorganic Chemistry, East West Press : Delhi, 1962.



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4. Huhey, James. Inorganic Chemistry, Addison- Wesley/Harper : London, 1988.
5. Kapoor, Ramesh, S.K. Vasisht and R.S. Chopra. Inorganic Chemistry, R. Chand and Co. : New Delhi, 1984.
6. Jerry, March. Advanced Organic Chemistry : Reactions, Mechanisms and Structures, New Age International/Eastern : New Delhi, 1992.
7. Morrison, R.N. and R.N. Boyd. Organic Chemistry, Prentice Hall of India : New Delhi, Sixth Edition, 1996.
8. Norman, R.O.C. and D.J. Waddington. Modern Organic Chemistry, Bell & Hyman : London, 1994.
9. Sykes, Peter. A Guide book to Mechanism in Organic Chemistry. Orient Longman : London, 1965. (Bombay, 1971).



## Paper-XVI (F) Liberal Course: Biology - II

MM:100 (Internal 20 , External 80)

### Course Content

#### Unit 1 Structure and Function

1. Plants : Types of tissues (xylem, phloem, stomata) in relation to processes – transpiration, ascent of sap, photosynthesis (ATP generation), cellular respiration, growth and development.
2. Animals : Study of digestion, respiration, **circulation, excretion**, hormonal regulation.

#### Unit 2 Cell Biology and Genetics

1. Interaction of genes : epistasis, co-dominance, polygenic inheritance, multiple alleles. Linkage, crossing over and genetic maps.
2. Techniques in Cell Biology : microscopy, fractionation, tissue culture and somatic cell hybridization, DNA technology.
3. Nucleus and Nucleic acids : structure of chromosomes- prokaryotes and eukaryotes DNA replication, protein synthesis, genetic control, gene mutation and chromosomal aberrations.

#### Unit 3 Developmental Biology

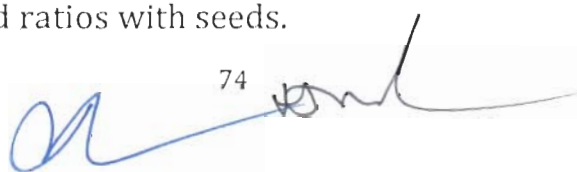
Development of human embryo.

#### Unit 4 Environmental Science

1. Biomes, flow of energy: food chains and pyramids.
2. Pollution : Water, air, soil, noise pollution.
3. Biosphere and its future: Population explosion, Nuclear winter, acid rain, Green house effect

### PRACTICALS : MM-20 Internal

1. Working out dihybrid ratios with seeds.

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2. Epistasis.
3. Experiment on transpiration.
4. Oxygen evolution in photosynthesis.
5. Grow seeds and measure and record growth pattern.
6. Effect of salt concentrations on PBC.
7. Abnormal constituents of urine.
8. Water analysis.

#### READINGS

1. Beri, A.K. Textbook of Animal Physiology. EMK Pub. : North Suite, 313 Pnte, 1981.
2. Burns S. Science of Genetics : An Introduction of Herediy, McMillan : New York, 1980, 4<sup>th</sup> Edition.
3. De Robertis, EDP and EMF De Robertis. Cell and Molecular Biology, Saunders and Co.: USA, 1975.
4. Devlin, R.M. and Witham, F.H. Plant Physiology, DBS Publishers and Distributors : Shahadara, 1986.
5. Nielson, Schmidt. Principles of Animal Physiology, Prentice Hall : New Delhi, 1973.
6. Noggle, G.R. and G.J. Fritz. Introductory Plant Physiology, Prentice Hall : New Delhi, 1976.
7. Odum E.P. Fundamentals of Ecology, Saunders and Co. : London 1971, 3<sup>rd</sup> Edition.
8. Raven P.H. and G.B. Johnson Biology, Brown Publisher: England, 1995.
9. Verma, P.S. Ecology, Chand Publishers: new Delhi, 1986.



## Paper-XVI (G) Liberal Course: History - II

MM:100 (Internal 20 , External 80)

### Course Content

Unit 1 Colonialism and Underdevelopment : The relationship between colonialism and underdevelopment and the variety of ways in which colonial power asserts itself will be discussed.

Unit 2 Education and society : This theme will discuss the history of different forms of pedagogy (in pathshalas, tols, madarsas, schools etc.) and the structures of formal and informal education in colonial and precolonial India.

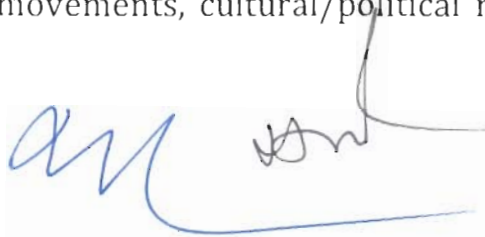
Unit 3 Language and Identity : The significance of language in the formation and assertion of identities and the link between language and power will be discussed. The conflicts between languages, the histories of their transformations and the processes of their interaction will be touched upon.

Unit 4 Science, Knowledge and Power : The different frameworks of scientific knowledge, the conflicts between forms of indigenous and western knowledge and the link between colonial hegemony and the domination of western science will be discussed with specific reference to medicine and scientific forestry.

Unit 5 Art, Society and Politics : The lectures will trace the shifting forms of art/architectural styles in India and their links with questions of identity and power.

Unit 6 Religion, Politics and Society : The lectures will discuss the history of different forms of patronage of religions; the conflicts between heterodox and orthodox sects; and the relation between religion and politics.

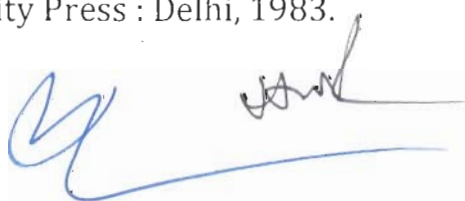
Unit 7 Resistance and Domination : The lectures will discuss a variety of forms of resistance to domination : silent protests/open rebellion, everyday resistance/ political movements, cultural/political resistance, passive/active resistance.





## READINGS

1. Chaudhary, Tapan Ray, et. al., Indian Economy in the 19<sup>th</sup> Century: A Symposium. Indian Economic and Social History Review, 1968.
2. Frank, Andre Gunder. On Capitalist Under Development, Oxford University Press : Bombay, 1975.
3. Acharya, Poromomesh. The Development of Modern Language Text Books and the Social Context in 19<sup>th</sup> Century Bengal, Economic and Political Weekly, April 26, 1986, 21(17).
4. Kumar, Krishna. Political Agenda of Education, Sage : New Delhi, 1991.
5. Cohn, Bernard. The Command of Language and the Language of Command, in Ranajit Guha (ed.) Subaltern Studies, IV, Oxford University press : Delhi, 1985.
6. Sheth, D.L. The Great Language Debate, Politics of Metropolitan Versus Vernacular India, in Upendra Baxi and Bhikhu Parekh, Crisis and Change in Contemporary India, Sage : New Delhi, 1995.
7. Gadgil and R. Guha. The Fissured Land. Oxford University Press : New Delhi, 1993.
8. Guha, Ramchandra. The Unquiet Woods : Ecological Change and Peasant Resistance in the Himalaya, Oxford University Press : Delhi, 1989. Chap. 2, 3, 6 and 7.
9. Metcalf, Thomas R. An Imperial Vision, Indian Architecture and British Raj, Faber and Faber : London, 1989.
10. Guha, Ranajit. Elementary Aspects of Peasant Insurgency in Colonial India, Vol. II. Oxford University Press : Delhi, 1983.



## Paper-XVI (H) Liberal Course: Political Science - II

MM:100 (Internal 20 , External 80)

### Course Content

Introduction : A Reappraisal of the Concerns of Politics.

1. From institutional and state-centered conception of politics to politics as a study of relations of power in society.
2. The entry of hitherto marginal groups and issues into the political mainstream.
3. The transformation of the global balance of power in the late twentieth century.

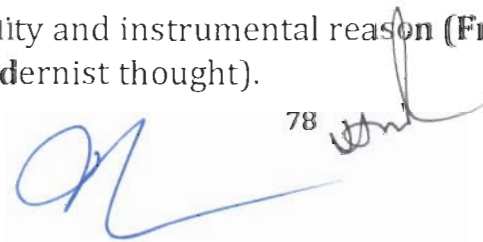
#### Unit 1 Gender

1. The challenge of political theory from the concept of gender.
2. Major issues in feminist politics : women's access to employment, property and other resources-capitalist development in post colonial societies and their impact on women-issues relating "body politics" (sexual violence, access to abortion, intrusive and harmful contraceptive method purveyed in the south by multinational companies)- sexism in legal discourse- feminism and the labour movement.
3. The Indian Women's movement : Central issues, ideological differences within the movement, relationship with other social movements.

#### Unit 2 Environment and Development

1. The challenge to the dominant development paradigms from the perspective of the environment : critique of Post-Enlightenment rationality and instrumental reason (Frankfurt school, Gandhi and postmodernist thought).

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2. The debates on appropriate technology, sustainable development, traditional systems/practices of medicine, indigenous systems of management of water, soil, forests.
3. The ecology movement – history and context of emergence of western movements (e.g. Greenpeace, Friends of the Earth, CND) and non-western movements (Chipko, Silent Valley, NBA and other examples from Latin America and South-East Asia). Relationship of these movements with the State, mainstream political parties and other social movements (e.g. trade unions, women's and civil rights movements).
4. The contradictions of the dominant international economic order and the agenda of the environment – the use of environment concerns by the industrialized North as a weapon against the south.

### Unit 3 The changing character of socialism

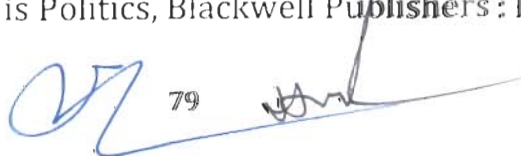
1. The main features of socialist thought upto the 1980s.
2. Characteristics of socialist countries upto the 1980s.
3. Challenges after the 1980s.
  - a. the collapse of the Soviet Union and Eastern Europe.
  - b. features of the crisis - response from within socialism
  - c. impact on post-colonial societies/third world.

### Unit 4 The changing character of capitalism

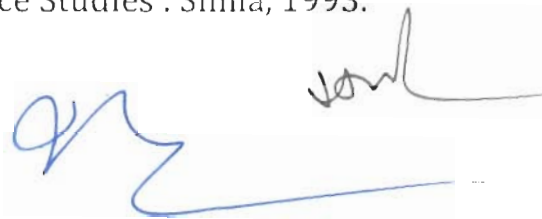
1. From laissez-faire to welfare state.
2. Capitalism in the 1980s : Thatcherism and Reaganomics.
3. Transnational companies and their role in post colonial countries.

### READINGS

1. Held, D. (ed.). Political Theory, Today, Stanford University Press : California, 1981.
2. Leftwich, A. (ed.). What is Politics, Blackwell Publishers : London, 1984.


  
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3. Wignaraja, P. (ed.). new Social Movements in the Souths : Empowering the People, Zed : London, 1992.
4. Barrett, M. Women's Oppression Today, Problems in Marxist Feminist Analysis, NLB : London, 1980.
5. Catharine, A. Mackinnon. Feminism Unmodified, Harvard University Press : Cambridge, 1987.
6. Kishwar, M. and R. Vanita. (ed.). In Search of Answers : Indian Women's Voice from Manushi, Horizon India Books : New Delhi, 1991, 2<sup>nd</sup> Edition.
7. Kumar, R. The History of Doing, Kali For Women : New Delhi, 1993.
8. Rowbotham. S. Woman's Consciousness, Man's World, Viking Penguin : New York, 1973.
9. Guha, R. The Unquiet Woods : Ecological Change and Peasant Resistance in the Himalaya, Oxford University Press : Delhi, 1991.
10. Mies, M. and V. Shiva, Ecofeminism, Kali for Women : New Delhi, 1993.
11. Nandy, A. Intimate Enemy : The Loss and Recovery of Self Under Colonialism, Oxford University Press : Delhi, 1984.
12. Roy Burman, B.K. Tribal Population, Interface of Historical Ecology and Political Economy, in M. Miri. (ed.) Continuity and Change in Tribal Society, Indian Institute of Advance Studies : Simla, 1993.



## Paper-XVI (I) Liberal Course: Geography - II

MM:100 (Internal 20 , External 80)

### Course Content

Unit 1 Human Geography : major paradigms in changing trends.

Unit 2 Resource Geography : definition and classification of resources; land resource and land use classification; water resources – ground water and surface water; energy resources – conventional (fuelwood, coal, petroleum and hydro) and non conventional (solar, wind and geothermal); biotic – forest and fisheries.

Unit 3 Agricultural Geography : types of farming; study of the following agricultural types – (a) shifting agriculture, (b) subsistence, (c) commercial, (d) plantation and (e) dairy farming; study of the following crops – (a) wheat, (b) rice, (d) cotton and (d) sugarcane; world agricultural problems.

Unit 4 Industrial Geography : factors affecting industrial location; major industries : (a) mineral-based (petro-chemicals and iron and steel), (b) agro-based (c) consumer based (automobiles and electronics); patterns and trends of industrialization.

Unit 5 Population Geography : demographic variables-fertility, mortality and migration; population growth and demographic transition model; causes and consequences in international migrations; population resource relationship-over, under and optimum population. Population policies : types-pronatalist and antinatalist.

Unit 6 Settlement Geography : classification of settlements – rural and urban; rural settlements – factor and types of rural settlements; urban settlements – origin, classification criteria and world urbanization pattern, city and its region.

Unit 7 Transport Geography : world pattern of rail, road, air and water ways.

Unit 8 Understanding Maps and Diagrams (Practical) : use of thematic maps (dot, choropleth and isopleths method); located statistical diagrams (bar diagram, pie chart and line graphs).

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Unit 9 Project Work : a report based on local study of the geographical characteristics related to any theme mentioned in different units in paper II (Resources, Agriculture, Industrial and Others).

### READINGS

1. Alexander. K.W. and T.A. Hartshorne, Economic Geography, Prentice Hall : New Jersey, 1988.
2. Berry, B.J.L. et. al. Economic Geography, Resource use, occasional choices and regional specialization in the Global Economy, Prentice Hall : New Jersey, 1987.
3. Chandna, R.C. An Introduction to Population Geography, Kalyani Publishers: Delhi, 1987. (Hindi version available)
4. Grigg, D.B. An Introduction to Agricultural Geography, Hutchinson : London, 1984.
5. Hagget, P. Geography : A Modern Synthesis, Harper and Row : New York, 1979.
6. Hudson, F.S. Settlement Geography. Macdonald and Evans : Plymouth, 1976.
7. Jarrett, H.R. Geography of Manufacturing, Macdonald and Evans : Plymouth, 1977.
8. Jasbir, S. and S.S. Dhillon Agricultural Geography, Tata McGraw Hill : New Delhi, 1984.
9. Johnes, Hue. Population Geography, Harper and Harper : London, 1989.
10. Mitchell, B. Geography and Resource Analysis, Longman : London, 1988.
11. Zimmerman, E.W, Introduction to World Resources, Harper and Row : New York, 1964.





## Paper-XVI (J) Liberal Course: Economics - II

MM:100 (Internal 20 , External 80)

### Course Content

Unit 1 Problems of economic development : role of capital and technology; nature and causes of economic backwardness; key issues in economic transition – capital formation, unemployment, growth and income distribution. Colonialism and under development in the Indian context.

Unit 2 Objectives of planning; strategy of growth in a mixed economy: role of public sector. Assessment of performance under Five Year Plan Trends of NY & PCY. Mobilisation of financial resources for plans.


Unit 3 Resource allocation across sectors; agriculture, industry, services, foreign trade between 1951 and the current Five Year Plan. Critical assessment of the policies and achievements of various sectors.

Unit 4 Demographic indicators of development – quantitative and qualitative dimensions; quality of life Index (performance in education, health, child labour, participation of women in the work force, etc.)

Unit 5 Univariate frequency distributions : measures of location and of dispersion. Elementary discussion on bivariate frequency distributions, association of attributes. Correlation, regression & factor analysis.

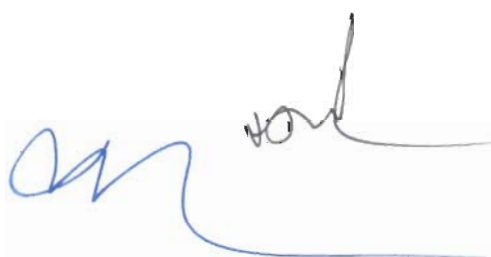
Unit 6 Index numbers of agricultural and industrial production (wholesale & consumer prices; meaning and uses). Indices of human development with special reference to education development.

Unit 7 Time series : objectives, components of time series, calculation of trend – linear and non-linear trends.



## READINGS

1. Bhanduri, Amit and Deepak Nayyar. The Intelligent Persons Guide to Liberalisation Penguin Books : New Delhi, 1996.
2. Chaudhary, P. 'India : Objectives, Achievements and Constraints', in P. Chaudhary, (ed.) Aspects of Indian Economic Development : A Book of Readings, Allen & Unwin : London, 1971.
3. Gupta, S.P. Statistical Methods, Sultan Chand and Sons : New Delhi, 1989.
4. Jalan, Bimal. (ed.). The Indian Economy : Problems and Prospects, Penguin Books : New Delhi, 1992.
5. Kapila, Uma. Indian Economy : Issues in Development Planning and Sectorial Aspects, Academic Foundations : New Delhi, 2000.
6. Kapila, Uma. (ed.). Indian Economy since Independence, Academic Foundation : New Delhi, annual updated edition.
7. Mishra, S.K. and Puri. V.K. Indian Economy, Himalaya Publishing House : Bombay, annual edition.
8. Nurkese, R. Problems of Capital Formation in Underdeveloped Countries, Oxford University Press : Bombay, 1974.
9. Patel, I.G. 'Strategy of Indian Planning', in P. Chaudhary, (ed.) Aspects of Indian Economic Development : A Book of Readings. Allen and Unwin : London, 1971.
10. Todaro, M.P. Economic Development in the Third World, Longman : New York, 1989, Chapter 1 and 2.



# Paper-XVII: Components of General Classroom Teaching

MM:50 (Internal 10 , External 40)

## Course Content

### Unit 1: Teaching as a Complex Activity:

- Concept of Teaching: meaning, definition, characteristics, forms
- Phases of Teaching: pre active, inter active, post active
- Levels of Teaching: memory, understanding, reflective
- Basic teaching skills and competencies
- Strategies and techniques of teaching

### Unit II: Aims and objectives in teaching of Science:

- Aims and objectives of Science teaching at upper primary and secondary level school. General objectives, specific objectives, specific objectives behavioural changes, educational objectives and teaching or learning objectives, classification of learning objective; cognitive, affective and psychomotor. Writing objectives in behavioural terms in content area of Science (such as thermodynamics, heat, electricity, magnetism, light, acid, base, salts, chemical change, state of matter etc.)

### Unit 2: Planning for Classroom Teaching

- Meaning and need of lesson planning, characteristics of good lesson plan, types of lesson plan, approaches in lesson planning: Herbart, Morrison, Dewy & Kilpatrick and RCEM. Design of lesson plan in the content area of Science (such as waves, matter, light, forces, chemical changes, acid, base, common salts, energy, work, etc.)

### Unit V: Planning for Classroom Teaching

- Meaning, nature and significance of lesson planning.
- Different approaches of lesson planning for teaching of commerce.

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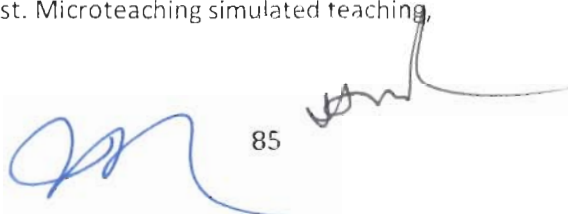
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- Preparation of lesson plans for different type of content of commerce: Accountancy, business studies, etc.

### Unit V: Teaching Models and Strategies:

- Meaning and definition of teaching models, fundamental elements of teaching models, types of teaching models; behavior modification and constructivist. Microteaching simulated teaching, team teaching.

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**Teaching as a Profession:**

- ☐ Nature and characteristics of a profession
- ☐ Teaching as a profession : concept and controversies
- ☐ Expectations as responsibilities and of a teacher
- ☐ Role of teacher in teaching learning situations as . (a) transmitter of knowledge, (b) facilitator, (c) negotiator, (d) co-learner
- ☐ Professional ethics and code of conduct for teachers in formal schools
- ☐ Teacher accountability

**B: Practical Activities Third Year: (MM-250)**

A: To develop of Teaching Skills (through teaching Of 10 Micro lessons) (MM-25)

B: 4 week internship in primary and elementary schools (MM-150)

- Observation of School Activities and Preparation of Report
- Observation of 10 Teaching classes and Preparation of Report
- Preparation of lesson plans and teaching of 20 lesson plans in primary and elementary schools ( 10 in each )

C: Documents and text analysis (MM-25)

- study of documents related to educational policy and planning and preparation of report
- analysis of text books of primary and elementary education

D: Preparation and use of teaching aids and learning material (MM-50)



**B.El.Ed. :Fourth Year**  
**A: Theory Papers: Fourth Year**  
**Paper- XVIII: Curriculum Studies**

**MM:100 (Internal 20 , External 80)**

**Course Content**

Unit 1 Determinants of curriculum : national aspirations and needs; culture; social change; value system and ideological factors.

Unit 2 Basic considerations in curriculum design (with reference to John Dewey); the learner, the subject matter; the teacher; the milieu.

Unit 3 The curriculum; curriculum and syllabus; curriculum and **text books**; curriculum as the teacher's programme for the school day; hidden **curriculum** (reflections of sex-stereotype, prejudice against linguistic and religious minorities etc.)



Unit 4 Curriculum organization : subject-centered; thematic; activity or experience-based (child centered). Study of an innovative **curriculum** (Basic curriculum as an example of the past and any one innovative **curriculum** in the present).

Unit 5 Influences shaping the daily curriculum : ideological factors; children's social background; teacher's social background; physical conditions of the school.

Unit 6 Curriculum evaluation : role of evaluation in the curriculum improvement process; principles of curriculum evaluation such as goal oriented, continuous, comprehensive, diversified, systematic etc.; models of curriculum evaluation- Tyler Bloom model, illuminative paradigm, Stake's countenance model etc.

Unit 7 Practicum: Study of a primary school in (1) a slum; and (2) in a middle class locality.

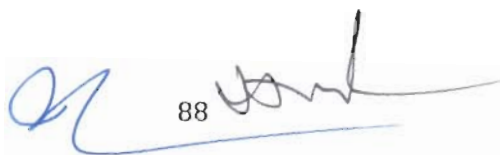
- (i) Studying a curriculum in action
- (ii) Evaluating a course
- (iii) Classroom observations
- (iv) Control of curriculum



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## READINGS

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4. Dewey, John. Democracy and Education, National Book Trust: New Delhi, 1998.
5. Gandhi, M.K. Hind Swaraj or Indian Home Rule, Navjivan Trust: Ahmedabad, 1938.
6. Kumar, Krishna. What is Worth Teaching, Orient Longman: New Delhi, 1994.
7. Kumar, Krishna. Learning From Conflict, Orient Longman: New Delhi, 1996.
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- 9- Montessori, Maria. The Discovery of the Child, Kalashetra : Madras, 1948.
10. सदगोपाल, ऐ. शिक्षा में बदलाव का सवाल: सामाजिक अनुभवों से नीति तक, ग्रन्थ शिल्पी: दिल्ली, 2000.
11. Sarangapani, Padma M. 'Children's Construction of Knowledge' in T.S. Saraswati (ed) Culture, Socialisation and Human Development: Theory, Research and Applications in India, Sage : New Delhi, 1999.
12. सक्सेना, साधना. शिक्षा और जन आन्दोलन, ग्रन्थ शिल्पी: दिल्ली, 2000.
13. Stenhouse, Lawrence. An Introduction to Curriculum Research and Development, Heinemann: London, 1975.
14. Sykes, Marjorie. The Story of Nai Talim, Nai Talim Samiti: Wardha, 1988.
15. Seminar. 400, December 1992: Ideology and Education; 493, September 2000: Redesigning Curriculum, Seminar: New Delhi.
16. Taba, Hilda. Curriculum Development: Theory and Practice, Harcourt, Brace and Wald: New York, 1962.



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**Paper- XIX: Children's Physical and Emotional Health,  
School Health and Education**  
MM:50 (Internal 10 , External 40)

**Course Content**

**Unit 1: Understanding Health and Well- Being**

- The meaning of health and well-being
- Understanding the linkages between poverty, inequality and health
- Health hazards of different pollution-air pollution, water pollution and noise pollution.

**Unit 2: Understanding Childrens' Health Needs**

- Reciprocal Linkage between Health and Education
- Personal hygiene-importance of personal hygiene- care of eye, teeth, ear and hair, importance of different parts of body
- Morbidity Mapping- Methods, observation, daily notes

**Unit 3: Health of Children in the Context of School**

- Mid Day Meal Programme: Rationale, Objectives, Components, Functioning, Concept of Classroom Hunger
- Measuring the Health of the School-issues of toilets, sanitation and water
- Role of the teacher and engagement with the programmes
- Capturing children's perceptions on food and mid day meal

**Unit 4: Role of yoga and physical exercises in Children's Physical and Emotional Health**

**Unit 5: School Health Services in India**

**Readings**

1. *Aao Kadam Uthaein: Ek Sahayak Pustika*, USRN-JNU, New Delhi. (A resource tool/book for schools to address issues of health infrastructure and programmes)
2. Baru, R. V. (2008). School Health Services in India: An Overview. Chapter 6 in
3. Rama V. Baru (ed.) *School Health Services in India: The Social and Economic*



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## Paper-XX: Gender and Schooling

MM:50 (Internal 10 , External 40)

### Course Content

Unit 1 Sex and Gender: psychological and sociological perspectives (Radical Feminist, Socialist – Feminist, Psychoanalytic and other Perspectives) and recent debates.

Unit 2 Social construction of Gender : socialization, family and gender identity; the media, gender roles and stereotypes; caste, class, community and gender relations.

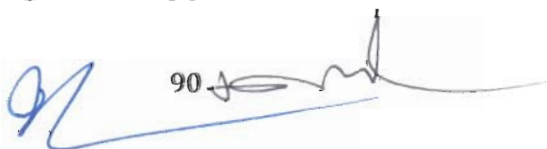
Unit 3 Gender inequalities in schooling : organization of schooling; gender bias in text books, curricular choices and the hidden curriculum (teacher attitudes, classroom interaction and peer culture).

Unit 4 Gender and schooling : case studies of interventions in school education; reflection from the field and strategies for change.

### READINGS

1. आर्य, साधना, निवेदिता मेनन और जिनी लोकनीता. नारीवादी राजनीति संघर्ष एवं मुद्दे (संपादक). हिन्दी माध्यम कार्यन्वय निदेशालय, दिल्ली विश्वविद्यालय: दिल्ली, 2001.
2. Bhasin, Kamla and Nighat Said Khan. Feminism and its Relevance in South Asia, Kali for Women: New Delhi, 1986.
3. Chanana, Karuna. (ed.) Socialisation, Education and Women, Orient Longman: New Delhi, 1988.
4. Chapman, Karen. The Sociology of Schools, Tavistock : London, 1986, pp. 61-80.
5. Gilligan, Carol. 'Do Women Speak in a Different Moral Voice', in M.R. Walsh, The Psychology of Women, Harvard University Press, Cambridge, 1987, pp. 274-277.
6. Lipsitz Sandra, Bem. 'Gender Schema Theory and its Implications for Child Development : raising gender aschematic children in a gender schematic society', in M.R. Walsh, (ed.). The Psychology of Women, Harvard University Press Cambridge, 1987, pp. 206-266.

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7. Mandell, Nancy (ed.), Feminist Issues: Race, Class and Sexuality, Prentice Hall: Ontario, 1995.
8. महरोत्रा, दिप्ति प्रिया. भारतीय महिला आंदोलन: कल आज और कल, सम्पूर्णा ट्रस्ट: नई दिल्ली, 2001.
9. Nambissan, Geetha B. Gender and Education : The Social Context of Schooling Girl Children in India. Perspectives in Education, 1995, 2, 3 and 4 : 197-209.
10. Statham, June. Daughters and Sons, Basil Blackwell: London, 1986.
11. Tong, Rosemarie. Feminist Thought: A Comprehensive Introduction, Westview Press: San Francisco, 1989.

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## **Paper-XXI: Option A : Pedagogy (one of the following)**

### **Paper-XX (A) : Pedagogy OF Language**

**MM:50 (Internal 10 , External 40)**

#### **Course Content**

Unit 1 The Learner : social and individual aspects; nature of family background; schooling; exposure; the role of mass media; affective filter; attitudes; motivation; aptitude; social and linguistic stereotypes; ethnocentrism; authoritarianism.

Unit 2 Learning Contexts: typology and learning situations, monolingual and multilingual societies; first and second language acquisition.

Unit 3 Methods and Models : grammar – translation method; direct method, the structural approach; audio-lingualism; communicative approaches; natural method; monitor model; total physical response; sociolinguistic approaches, teaching in a multilingual classroom.

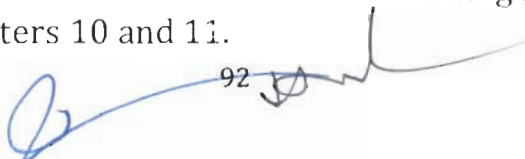
Unit 4 Language acquisition in multilingual settings: theory of interference; contrastive analysis and its limitations; error analysis; errors as stage in the process of learning; inter language; approximative systems.

Unit 5 Materials and teaching aids : selection of materials; gradation; the concept of linguistic complexity; cohesion and coherence; idea; density; levels of readability; schema theory; teaching aids; language lab; CALT.

Unit 6 Evaluation: taxonomy of tests: discrete point and integrative tests; cloze, dictation and translation-new perspectives; communicative testing; process evaluation; participatory evaluation and the discourse of equality and justice; feedback into curriculum.

#### **READINGS**

1. Anderson, Richard C. et. al. (eds). Learning to Read in American Schools, Lawrence Erlbaum Associates: New Jersey, 1984.
2. Butler, A. and J. Turbill. (eds.). Towards a Reading Writing Classroom, Heinemann: Portsmouth, NH, 1984.
3. Donal, J. Len and Charles K. Kinzer. Effective Reading Instruction, Prentice Hall : UK, 1995, Chapters 10 and 11.

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4. Rhodes, Lynnk. and Nancy L. Shankin. Windows into Literacy: Assessing Learners K-8, Heinemann: Portsmouth, NH, 1993.
5. Rosenblatt, Louise M. What Fasts Does This Poem Teach: Language Arts, Vol. 57 No.4, 1980.
6. Teale, W. and E. Sulzby. (eds.) Emergent Literacy: Writing and Readings, Nerwood: New Jersey, 1986.
7. Tompkins, Gail E. Teaching Writing: Balancing Process and Product; McMillan; California, 1994.

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## Paper-XXI (B) : Pedagogy OF Mathematics

MM:50 (Internal 10 , External 40)

### Course Content

Unit 1 What is Mathematics : patterns; reasoning; generalizations; nature of mathematical statement – axioms and postulates; explanations and proofs; parsimony; necessity and sufficiency. Nature of mathematics in the curriculum : structure; language; notation; concepts and procedures. History of mathematics with special emphasis on teaching of mathematics, contribution of Indian mathematicians. Aesthetic sense in mathematics, coexistence of precision and beauty in mathematics; Scope of mathematics.

Unit 2 Development of children's logical thinking, reasoning and representation (formal operations and abstraction).

Unit 3 Pedagogical considerations in geometry, practical arithmetic, number, algebra, data handling and statistics, ratio and proportional reasoning.

Unit 4 Communicating Mathematics : activity; graphical methods; construction; measurement; modeling; computation. Use of computers and calculators in instruction.

Unit 5 Learning Resources in Mathematics: Textbooks and audio-visual multimedia – selection and designing; Using community resources for mathematics learning, pooling of learning resources in school complex/ block/district level, handling hurdles in utilizing resources.

Unit 6 Feed- back, testing, evaluation and remedial teaching.

### READINGS

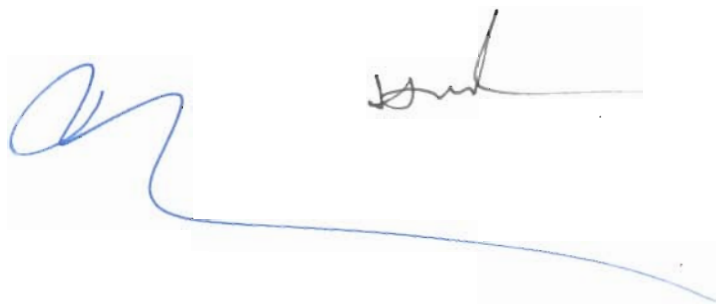
1. Brooks, J.G. and M.G. Brooks. Honoring the Learning Process: In search of Understanding the Case for Constructionist Classrooms. Alexandria: V.A.1993.
2. Currant, R. and H. Robbins. What is Mathematics? An Elementary Approach of Ideas and Methods, Oxford University Press: New York, 1996.

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3. Dickson, Linda, Margaret Bram and Olwen Gibson. Children Learning Mathematics: A Teachers Guide to Recent Research, Hold, Rinehart and Winston: London, 1984.
4. Dickson, L., et. al. Children Learning Mathematics – A teacher's guide to recent research, Rinehart and Winston : London, 1984.
5. Grouws, P.A. Handbook of Research on Mathematics Teaching and Learning, Rest: V.A. 1992.
6. Prevost, F.J. Rethinking How We teach: Learning Mathematical Pedgagogy, The Mathematics Teacher, Volume 86, (1).
7. Skemp, Richard R. Mathematics in the Primary School, Routledge; London, 1989.

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## Paper-XXI (C) : Pedagogy Of Natural Science

MM:50 (Internal 10 , External 40)

### Course Content

Unit 1 Nature and structure of natural science; significance of natural science in the curriculum at the upper primary level.

Unit 2 Approaches and Strategies of Learning natural Science: Pedagogical shift from science as fixed body of knowledge to process of constructing knowledge, scientific method - observation, enquiry, hypothesis, experimentation, data collection, generalization; Communication in biological sciences; Problem solving, investigatory approach, concept mapping, collaborative learning, and experiential learning in biological science.

Unit 3 Relating the study of cognitive growth and learning to the development of understanding and appreciation of science. Aims and objectives of teaching science.

Unit 4 Disciplinary and integrated approach to teaching; Levels of disciplinary growth of different natural sciences-descriptive, inductive, causal and formal. Significance and bases of integration; aims and objectives of teaching integrated science.

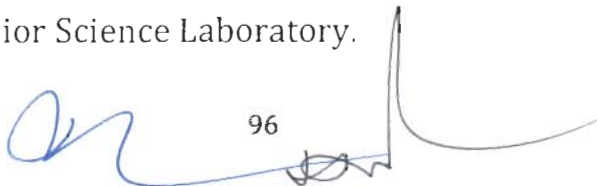
Unit 5 Basic considerations in developing and transacting curriculum. Appraisal of existing curricula including innovative curricula in India and abroad. Text analysis – text book, work-book and teacher's guide.

Unit 6 Evaluation in science; cognitive, psycho-motor and affective aspects. Test construction, analysis and interpretation.

### PRACTICAL

1. Devising simple experiments related to topics in Class VI, VII, VIII.
2. Maintenance of Junior Science Laboratory.

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3. Development of skills like observation; use of environmental and local resources; improvising apparatus; organizing science clubs, fairs, museum and exhibitions.
4. Field trips.

#### READINGS

1. Collette, Alfred T. and Eugene L. Chiappetta. Science Instruction in the Middle and Secondary Schools, MacMillan: New York, 1994.
2. Eklavya, Bal Viganik – Class 6, 7, 8. Madhya Pradesh Pathya Pustak Nigan: Bhopal, 1978.
3. Esler, W.K. Teaching Elementary Science, Wadsworth: California, 1973.
4. Gega, P.C. and J.M. Peters. Science in Elementary Education, Merrill: New Jersey, 1998.
5. Jevons, F.R. The Teaching of Science – Education, Science and Society, George Allen and Unwin : London, 1969.
6. NCERT. Integrated Science Curriculum for Middle Schools, NCERT : New Delhi, 1982.
7. Sundarajan, S. Teaching Science in Middle School: A Resource Book, Orient Longman: Hyderabad, 1995.
8. UNESCO. Integrated Science Teaching in the Asian Region, A Report of a Regional Workshop, organized by UNESCO. Regional Office for Education in Asia, Bangkok, 1971.
9. UNESCO, Source Book for Science Teaching, UNESCO : Paris, 1966.



## Paper-XXI (D) : Pedagogy Of Social Sciences

MM:50 (Internal 10 , External 40)

### Course Content

Unit 1 Conceptualization of Social science: Concept, nature and scope of Social science, Philosophical and Theoretical basis of Social science, distinguishing between natural sciences and social sciences, major social science disciplines in schools. Place of Social science in school curriculum: Aims and objectives of teaching Social science at primary and elementary education with special reference to Indian conditions.

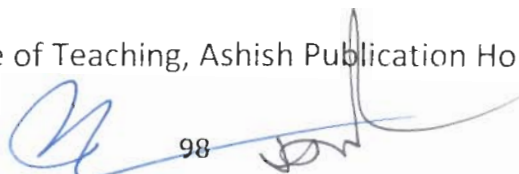
Unit 2 Social Science and Social Studies: defining its scope and nature, rationale for a social studies programme at the elementary school.

Unit 3 Developing concepts, skills and attitudes through the teaching of social studies. Understanding change and continuity, cause and effect, time perspective and chronology, empathy, spatial interaction – to be taught through the following (i) Society : personality, social structure, groups, community, (ii) Civilization : history, culture, (iii) State : authority, citizen (iv) Region : resource, space (v) Market : exchange.

Unit 4 Methods and materials : inquiry and evidence based teaching (i) identification of problems and questions (themes and issues) (ii) importance of empirical evidence (iii) assessment of example as evidence. Teaching Methods : Application of the heuristic/discovery method in social science; Project – (i) secondary source (ii) field work. Integrating text based knowledge with the social context, personal/ experiential knowledge as a base for critical thinking.

### Readings:

- Kochhar, S.K.: Teaching of Social Science, Sterling Publication, New Delhi.
- Bunning, A.C.: Teaching of Social Studies in Secondary Schools, McGraw Hill Book Company, Inc., New York.
- High, J.: Teaching Secondary School Social Studies, The Macmillan Company, New York.
- Tripathi, S.: Teaching Methods, Radha Publications, New Delhi.
- Chauhan, S.S.: Innovations in Teaching Learning Process, Vikash Publication House, New Delhi.
- Siddiqui, M.H.: Excellence of Teaching, Ashish Publication House, New Delhi.



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## **Paper-XXII: Option B: Specialized courses in education (one of the following)**

### **Paper-XXII (A) Computer Education and understanding ICT**

**MM:50 (Internal 10 , External 40)**

#### **Course Content**

##### **Unit I: Introduction to Computers:**

Meaning, characteristics and functioning of a computer through block diagram, Hardware: Input, output and storage devices, Software: concept and types, computer memory: concept and types, viruses and its management.

##### **Unit II: ICT in Education:**

□ Concept, meaning, nature and importance of ICT in Education, Need of ICT in education, Scope of ICT in education, advantages and limitations of ICT in education, challenges in integrating ICT in school education, difference between Educational technology, Communication technology and information technology.

##### **Unit III: Psychological Bases of Using ICT:**

□ Dale's cone of experience, Multisensory instruction. Multisensory instructional approach and constructivist approach.

##### **Unit IV: ICT Supported Teaching/Learning Strategies:**

Programmed instruction, computer assisted instruction, computer managed instruction, Computer based education and computer managed education, project based learning, collaborative learning, cooperative learning, technology aided learning.

##### **Unit V: E-learning and Web Based Learning:**

E-learning: Concept and nature, web based learning, virtual classroom, EDUSAT, critical issues in internet usage – authenticity of information, plagiarism, downsides of social networking group.

##### **READINGS:**

1. Aggarwal J.C. (1995). Essentials of Educational Technology – Learning Innovations, Vikas Publications, New Delhi.
2. Grant Wiggins, Jay McTighe (2005). Understanding by Design, 2nd Edition,

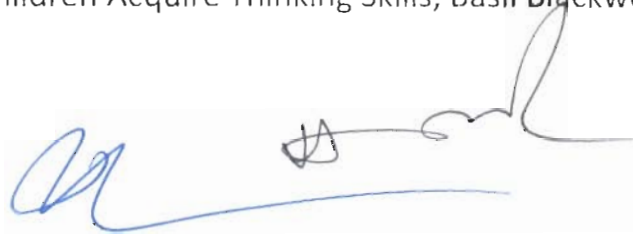
Association for Supervision and Curriculum Development

3. Intel® Teach to the future Pre–Service Curriculum Manual, Edition 2.0 (with Companion CD),

4. Kumar, K.L., 2000, Educational Technology, New Age International (P.) Ltd. Publishers, New Delhi.

5. Sampath, K, et al, 1998, Introduction to Educational Technology, (4th Edition) Sterling Publishers, New Delhi.

6. Underwood, Jean D.M., and Geoffrey Underwood, 1990, Computers and Learning – Helping Children Acquire Thinking Skills, Basil Blackwell, Oxford.

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## Paper-XXII (B) Special Education

**MM:50 (Internal 10 , External 40)**

### **Course Content**

#### **Unit I:**

- Disability: Concept, Meaning & Perspectives, Gender and Disability
- Special Education & Inclusive Education: Concepts, meaning & Definitions, National & International Historical Progression

#### **Unit II:**

- General Principles of Teaching Children with Special Needs: Curricular Adaptation, Planning, Preparing & Implementing IEPs & GTPs, Universal Design of Instruction

#### **Unit III:**

- Teaching Children with Sensory Disabilities (VI, HI, Deaf-Blind)
- Teaching Children with Neuro-Developmental Disabilities (LD, MR (ID), ASD)

#### **Unit IV:**

- Teaching Children with Loco-motor & Multiple Disabilities (CP, MD)
- Teaching Children with Learning Disabilities (LD)

#### **Unit V:**

- Applied Behavioural Analysis
- Community Based Rehabilitation
- Assistive & Augmentative Communication

### **READINGS:**

1. Alur, Mithu (2010). Journey for inclusive education in the Indian sub continent. Routledge
2. Burrello N. C., Lashley C, and Beatty E. E. (2001) Educating all students together. How school leaders create Unified System. Corwin Press, Inc., Sage Publication Company.
3. Dash, Neena (2012). Inclusive education for children with special needs. Atlantic Pub.
4. Gearheart, B. R; Weishahn, M. W; Gearheart C. J. (1992). The Exceptional Student in the Regular classroom (5th Ed.) Macmika Publishing company.
5. Hallahan, D.P., Kauffman, J.M., Pullen, P.C. (2009). Exceptional Learners – An

Introduction to Education (11th Ed) Allyn & Bacon, Pearson Education, Inc. USA.

6. Hegarty S and Alur M (2002) Education and Children with special needs – from Segregation to Inclusion (Ed) Sage Publication
7. Internet Source, MHRD (2005b). 'Action Plan for Inclusive Education of Students and Youth with Disabilities'.
8. Internet Source, SSA (2002). 'Basic features of SSA', Inclusive education in SSA, Retrieved from [www.ssa.nic.in / inclusive\\_education / ssa\\_plan\\_manual](http://www.ssa.nic.in / inclusive_education / ssa_plan_manual).
9. Jangira, N. K. (2002). Special educational needs of students and young adults: an unfinished agenda, in: M. Alur & S. Hegarty (Eds) Education and students with special needs: from segregation to inclusion New Delhi, Sage.
10. Jhulka, A. (2006) "Including students and youth with disabilities in education - a guide for practioners" NCERT, New Delhi

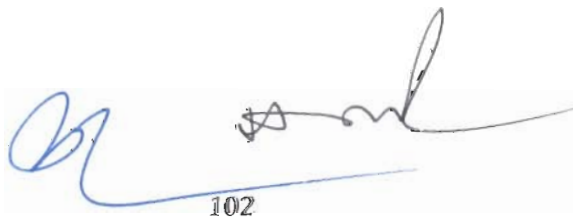
## **B: Practical Activities: Fourth Year:(MM- 400)**

### **A: School Internship: (MM 250 )**

Each intern is expected to spend 16 weeks in the internship programme. Of these, one week is expected to be spent on classroom observations at the beginning of the internship. The subsequent 15 weeks are to be divided into two blocks for regular teaching. The first block of 7-8 weeks is to be spent in teaching a primary class (I-V). In the second block of 6-7 weeks, the interns will teach middle level (VI-VIII) classes. The intern is expected to teach a minimum of four days per week in this duration he/she will teach 30 lesson in primary class (I-V) and 30 lesson in middle level (VI-VIII) classes. The intern is expected to teach a minimum of four days per week, adding up to a total of 64 days. It is expected that the internship programme will be considered complete only after an intern has satisfied the requirement of one week of observations and a minimum of 55 days of teaching.

The main activities of internship programme are as follows:

**I) Reflection on Classroom Observations:** Observe classroom to understand children's needs and levels of learning, classroom practices and the classroom culture. Interns are expected to observe the classroom they will teach in during internship. +



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**II) Rapport Building with Teachers:** Establish rapport with the regular staff of the school: In order to sustain a positive and professional work culture during internship.

**III) Classroom observations:** Interact with B.El.Ed. faculty to reflect upon experiences in the school during observations and rapport building. This is to facilitate the interns to make sense of existing work and learning conditions. This in turn will help the process of translating ideas of teaching learning into practice.

**IV) Developing Units Plans**

**VI) Class Room Teaching:**

**B: Project: (MM- 50)**

- Every student is required to take up project work in **specific** areas of interest. Project work is designed to initiate students **into** a process of scientific enquiry, through classroom-based research. **Small** projects on specific themes such as miscue analysis gender stereotypes, error analysis, children's understanding of specific concepts and so on **can be** taken up.
- Each student is expect to undertake two or three **small projects**. these could be related to pedagogic studies specific to **language**, maths and environmental sciences, or be based on any of the **foundation** or specialized courses of fourth year.
- Students interns may use their experiences of teaching **identifying** project themes and undertake the task of data-collection during **internship**. Each individual project will be conducted under the **guidance** of a faculty member.
- It is expected that the research undertaken **will** enable students to cultivate skill systematic observation, documentation, critical **analysis** and interpretation. This will create a teacher oriented towards probing into children's **learning** processes, with the objective of improving classroom practices. **Students** will be expected to submit a **short** report on each project.

**C: Preparation of innovative teaching aids/improvisation of apparatus: (MM :50)**

**D: Academic Enrichment Activities: Creating Resource Centre: (MM 50)**

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