**B. A. B. Ed. (CBCS) Semester- III**

**GROUP B: GENERIC COURSE (GC)**

**GCEE 201: ENVIRONMENTAL EDUCATION & SUSTAINABLE DEVELOPMENT**

Time: 3 Hours Max. Marks: 100

 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

# Objectives of the Course

# The Course ‘Environmental Education’ aims to orient student-teachers to analyze and understand environment concerns through the process of inquiry, critical analysis, intellectual discourse and essential projects.

**Course Contents**

**Unit I: Importance and Scope of Environment**

Importance need and scope of Environmental Conservation and Regeneration, Structure and functions of different ecosystems, India as a mega biodiversity nation, Role of individual in conservation of natural resources: water, energy and food, Equitable uses of resources for sustainable livelihoods, Environmental legislation: awareness and issues involved in enforcement.

**Unit II: Natural Resources**

Community participation in natural resource management- water, forests. Deforestation in the context of tribal life, Sustainable land use management, Traditional knowledge and biodiversity conservation, Developmental projects including Government initiatives and their impact on biodiversity conservation.

##### Unit III: Practices in Environment Management

Consumerism and waste generation and its management, Environmental degradation and its impact on the health of people, Organic farming, Agricultural waste: their impact and management, Rain water harvesting and water resource management, Biomedical waste management.

**Unit IV: Sustainable Environment in Global World**

Environmental conservation in the globalised world, Alternative sources of energy, Impact of natural disaster/man-made disaster on environment, Biological control for sustainable agriculture, Heat production and greenhouse gas emission, Impact of industry/mining/transport on environment, Sustainable use of forest produces.

**Modes of Learning Engagement:**

* Case studies and success stories (involve local material).
* Problem solving and enquiry methods
* Small assignments which may include observation of important relevant days, preparation of bulletin board material, games, crossword puzzles, worksheet etc.
* Setting up of Eco-clubs.
* Conducting a seminar and developing a seminar document
* Project work and writing of project report
* Discussion of activities pertaining to two different classes and subjects.
* Activities on infusion of appropriate concerns.

### Practicum:

* The students on completion of each topic of Unit-I will submit a small assignment in the form of an activity. This may include observation of importance of relevant season, preparation of bulletin board material, wall games, crossword puzzles, worksheet etc.
* The class can also form an environment club. The activity has to be on some local specific issue pertaining to the native place of the students.
* From the wide range of topics suggested in Units, the student will be assigned one topic. The student will develop a seminar document, which will be submitted after the seminar.

**Suggested Readings:**

1. NCERT (1981) Environmental Education at School Level. New Delhi. NCERT.
2. Odum, E.P (1971). Fundamental Ecology. London. W.B. Saunders Company.
3. Palmer, Joy A. (1998). Environmental education in the 21st  Century. London. Routledge.
4. Sharma R. C and Tan, Marle C (Eds.) (1990). Resource Book in Environmental education for school lectures. Bangkok. UNESCO.
5. Sharma, R.C. (1981). 'Environmental Education. New Delhi. Metropolitan Publishers.
6. gfj'kpUnzO;kl ¼2001½- i;kZoj.kf'k{kk] ubZ fnYyh-
7. lDlsukgfjeksgu ¼2003½- i;kZoj.k v/;;u] Jhxaxkuxj- vxzokylkfgR; lnuA
8. iadtJhokLro ¼1998½- ^i;kZoj.kf'k{kk\*- Hkksiky- e/;izns'kfgUnhxzaFkvdknehA
9. lDlsuk ,-ch- ¼1998½- i;kZoj.kf'k{kk- ubZfnYyh- vk;ZcqdfMiksA
10. UNESCO (1990). Sourcebook in Environmental Education for School Teachers. Bangkok.
11. CEE (1995). Joy of learning handbook of environmental education activities. Vol.I-3 to 5.—Ahmedabad. Centre for Environment Education,
12. CEE (1996) Joy of learning. Handbook of environmental education activities. Vol.II-6 to 8.-- Ahmedabad: Centre for Environment Education
13. Pandya (1999). Mamata, Guide to green material: experiences and learning in developing effective environmental education material. Ahmedbad. Centre for Environment Education,
14. Sharma, R. C. (1981). Environmental Education. Delhi. Metropolitan.
15. Reddy, K. Purushotham. (2007). Environmental education. New Delhi. Neel kamal Publications Pvt. Ltd.
16. NCERT (2009). Project book in Environmental Education for class VII, VII, IX and X. New Delhi. NCERT.
17. NCERT (2011). Teachers' Handbook on Environmental Education for the higher secondary stage. New Delhi.

###### ENG 201 English Drama

Time: 3 Hours Max. Marks: 100

Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The students will be able to:

* Acquaint with certain specimens of English drama and their types from different ages.
* Develop their analytical and imaginative powers through readings in drama and their skills in dialogue development through their readings in drama.

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| **Course Contents** |
| Unit I | Cristopher Marlow: Dr. Faustus Shakespeare: As You Like It |
| Unit II | William Congreve: The Way of the World |
| Unit III | G.B. Shaw: Arms and the Man |
| Unit IV | 1. Tragedy, Comedy, Plot, Soliloquy, Three Unities, Tragic Comedy, Farce, Conflict,

Climax, Catharsis, Poetic justice, Chorus, Comic Relief, Closet Drama1. Mystery, Miracle and morality plays, the intrudes, Elizabethan drama, heroic tragedy, comedy of manners, problem plays, poetic drama, absurd plays,

contemporary English drama |
| **Tutorials/ Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/ lecture period. Peer group teaching may be encouraged. Hard spots, if any, may be resolved during tutorials. |

**Readings Unit I**

* Sinha,A. K. *A Students’ Companion to English Drama*. Bharati Bhawan (P&D). 2017.
* Braunmuller, A. R. (Ed.). *Macbeth (The New Cambridge Shakespeare)*. CUP. 1997.
* Bradley, A.C. *Shakespearean Tragedy*.4th Ed. Palgrave Macmillan. 2006.
* McEachern, Claire. *The Cambridge Companion to Shakespearean Tragedy*. CUP. 2013.

**Unit II**

* Hattaway, Michael (Ed.). *As You Like It (The New Cambridge Shakespeare)*. CUP. 2009.
* Leggatt, Alexander.*The Cambridge Companion to Shakespearean Comedy*. CUP. 2006.

**Unit III**

* Chakrabarti, Shrishendu (Ed.). *The Way of The World*. Orient BlackSwan. 2007.
* Dobre, Bonamy. *Restoration Comedy 1660-1720*. OUP. 1962.
* Fisk, Deborah Payne. *The Cambridge Companion to English Restoration Theatre*. CUP. 2006.

**Unit IV**

* Ward, A. C. (Ed.). *Arms and the Man*. Orient BlackSwan. 2011.

Innes, Christopher. *The Cambridge Companion to George Bernard Shaw*. CUP. 2006

**HIN 201 HINDI**

Time: 3 Hours Max. Marks: 100

Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Course Contents**



##### CCG-201: Economic Geography

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 60, Internal: 20, Practical: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 12 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 12 marks each.

iv) All questions will carry equal marks.

*Objectives:*

* + 1. *To explain the meaning and concepts of economic geography*
		2. *To understand the economic organization of space*
		3. *To explain the spatial organization of the economic activities*

**Course Contents**

**Unit I**

Meaning and approaches of Economic; Concepts and classification of economic activities; Resource- concept and classification; Spatial organization of economic activities; Economic organization of space

###### Unit II

Agricultural typologies with special reference to subsistence and commercial agriculture; Forestry, Fishing and Mining; Factors affecting location and distribution of primary economic activities with special reference to agricultural land use; J. H. von ThÜnen’s model of agricultural land use.

###### Unit III

Types of industries; Factors influencing location of Industries with special reference to iron ore, cotton textiles and sugar; Alfred Weber’s theory of industrial location

###### Unit IV

Concepts of distance, accessibility and connectivity; Edward Ulman’s model of spatial interaction; Competition and complementarity between various modes of transportation; International trade theories

###### Suggested Readings

1. Alexander J. W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Coe N. M., Kelly P. F. and Yeung H. W., 2007: *Economic Geography: A Contemporary Introduction*, Wiley-Blackwell.
3. Hodder B. W. and Lee Roger, 1974: *Economic Geography*, Taylor and Francis.
4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Wheeler J. O., 1998: *Economic Geography*, Wiley. 6- Durand L., 1961: *Economic Geography*, Crowell.
6. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*, Taylor and Francis.
7. Willington D. E., 2008: *Economic Geography*, Husband Press.
8. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. 2000: The *Oxford Handbook of Economic Geography*, Oxford University Press, Oxford and New York.

##### CCG-201: PRACTICAL

###### Collection, Representation and Analysis of Geographical Data

Total credit: 1 Contact hours: 2 per week

Techniques of data collection – field observation and interview schedule Techniques of data representation – graphs, diagrams and maps

Techniques of data analysis - mean, mode, median, deviation, dispersion and co-efficient of correlation

***Practical Record:***Students will be taken to a nearby village for a week for socio-economic survey. They will write a detailed field report by graphically representing and statistically analysing field data.

**Assessment Modalities:** The assessment modality will involve a term-end examination towards the end of the semester.

* + The term-end examination will carry a weightage of 30 marks. Duration of examination will be 3 hours.
		- Lab Work (Any 2 out of 3 exercise) 10 Marks
		- Survey Report 10 Marks
		- Record File 05 Marks
		- Viva 05 Marks

###### Suggested Readings

* Tyner J. A., 2010: *Principles of Map Design*, The Guilford Press.
* Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept, New Delhi. Monkhouse F. J. and Wilkinson H. R., 1973: *Maps and Diagrams*, Methuen, London.
* Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers, Meerut.
* Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers.
* Singh, L R & Singh R (1977): Manchitra or Pryaogatamek Bhugol , Central Book Depot, Allahabad Singh, R.L. & Singh Rana, P.B. 1992: *Elements of practical Geography*, New Delhi: Kalyani Publisher**.**

###### HIS 201 Indian History (Earliest Times to 1200 A.D.)

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

Iv All questions will carry equal marks.

**Objectives:** The students will be able to:

* To provide the knowledge of the sources of the period.
* The students shall be able to know the legacies of the early history of India.
* The study of this Semester shall provide the know how the origin of republics and the system of republican administration.
* To give the knowledge of the rich administrative traditions of ancient India
* The students’ shall come in touch with the pride of ancient Indian society and polity.
* This Semester shall provide the knowledge of the spread of Indian culture in the other countries.
* The student will be informed about the South Indian History

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| **Unit** | **Course Contents** |
| Unit I | * Sources of ancient Indian History –Literary, Archaeological, Numismatical and Epigraphical.
* Influence of Geography on Indian History,
* Geographical divisions of India.
* Sindhu –Saraswati civilisation – origin, extent, First Urbanisation: urban planning, economy and Trade.
 |
| Unit II | * Post Mauryan society and polity : Shungas, satvahanas and Kushanas,
* Sangam Age – Chiefdoms, literature, society and economy.
* Gupta dynasty – Chandragupta I, Samudragupta, Chandragupta administration, Land revenue system, Economy and society
* Gupta administration, Land revenue system, Economy and society
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| **Unit III** | * Mahajanpadas: Administrative system of Republics, The age of second urbanisation
* Rise of Magadha Empire
* The Age of Mauryas – Chandragupta: extent of his empire and administration.
* Ashoka – his concept of Dhamma.
 |
| **Unit IV** | * Political, Social, religious and economic life during the reign of Harsha Vardhana
* Rise of Rajputs; origin and consolidation: Chauhans, Gurjar Prathiars, Parmars, Guhils
* South India - Pallavas, Chalukyas, RashtraKutas, Cholas: society and polity
* Tripartite struggle
 |
| **Tutorials/Practicum:** Sources of ancient Indian History –Literary, Archaeological, Numismatical and Epigraphical. Influence of Geography on Indian History, Geographical divisions of India. Sindhu –Saraswati civilisation – origin, extent, First Urbanisation: urban planning, economy and Trade. |

**Suggested Readings**

* Luniya, B. N. *Evolution of Indian Culture*. Agra
* Raychoudhary, S.C. *Social, Cultural and Economic History of India*: Ancient Times. Surjeet Publications
* Sharma, Krishangopal . Hukum Chand Jain . *India's political and Cultural history of India*, Rajasthan Hindi Granth Academy. Edition Fifth
* Gupta,Copper Shivkumar,*Foundations of Indian Culture*, Rajasthan Hindi Granth Academy
* Eraly ,Abraham , *The First Spring The Golden Age of India,* Penguin India
* Eraly ,Abraham, *The First Spring Part 1 life in the Golden Age of India,* Penguin India
* Eraly ,Abraham ,*The First Spring Part 2 Culture in the Golden Age of India,* Penguin India
* Rizvi ,S.A.A.,*The Wonder That was India Volume II,* Picador India
* Basham ,A.L., *The Wonder That was India,*
* Smith, V.A. *Early History of India* : Oxford
* Roychowdhry, H.C. *Political History of Ancient India*
* Agarwal, D.P. *History and Culture of Indian people*
* Sharma, Dasharat. *Early Chauhan Dynasties, Vol. I and II*

###### POL 201: COMPARATIVE GOVERNMENT AND POLITICS

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** On completion of the course the students – Teacher will be able to:

* Acquire knowledge about the constitutional systems of UK, USA, and Switzerland.
* Understand the composition, functions and position of legislature's executives and judicieries in different countries.
* Understand the different patterns of relationship among the Executive, Legislature and Judiciary prevailing in different kinds of political systems.
* Acquaint themselves with various aspects and agencies of political process in different systems.

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| **Unit** | **Course Contents** |
| Unit I | Comparative politics: Meaning, scope and nature. Types of comparison (Vertical-Horizontal), Types of Constitutions, Constitutionalism. |
| Unit II | Socio-economic bases and salient features of the Constitutions of United kingdom, United states of America and Switzerland .Federal system of theU.S.A. and Switzerland. Political parties in the U.S.A., United kingdom and Switzerland |
| Unit III | Executive: Composition and Functions, British King and the Crown. British Prime Minister and Cabinet, the President of the USA, Plural Executive of Switzerland. |
| Unit IV | Legislature: Composition and Powers of the British Parliament, USA‘s Congress, Swiss Federal Assembly.Judiciary : Judicial system of UK, USA‘s Supreme Court and Federal Tribunal of Switzerland. |

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| **Tutorials/ Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/ lecture period. Peer group teaching may be encouraged. Hard spots, if any,may be resolved during tutorials. |

**Suggested Readings**

1. Kamrava Mehran : Understanding Comparative politics, Prentice hall of India Pvt.Ltd.,New Delhi 2000 Charles,
2. Beared: American Government and Politics. H. C. Huiton: An Introduction to Chinese Politics. London, David and Charles, 1973.
3. H.J.Laskhi : American Democracy : A commentary and An Interpretation, London Unwin 1984.
4. Leys, Politics in Britain: An Introduction, London, Heinemann, 1983

###### ECO 201: MACRO ECONOMICS

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The students will be able to:

* Define Macroeconomics and understand the emergence of Macroeconomics.
* Distinguished between the microeconomics and macroeconomics.
* Explain the nature and scope of macroeconomics analysis.
* Explain the role of equilibrium in economics analysis.
* Discuss the concept of static, dynamic and comparative static; stock & flow in economic analysis.
* Describe the structure and working of four sectors of macro economy.
* Explain the circular flow of income and expenditure in closed and open economy.
* Explain the equilibrium level of output and employment in the economy.
* Discuss the concept of multiplier and accelerator in the economy.
* Explain the various theory of interest- classical, loanable, liquidity and IS & LM model.
* Explain the nature of fluctuation of economic activities or business activities in the economy.

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| **Unit** | **Course Contents** |

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| **UNIT-I****Meaning, Nature and Scope of Macroeconomics** | * Meaning and emergence of Macroeconomics,
* Nature and Scope of Macroeconomics;
* Basic concepts of Macroeconomics- Role of equilibrium in economic analysis, Distinguish between Micro and Macro Economics, Static, Dynamic and Comparative static,
* Structure and working of four sectors of Macro economy,
* Circular flow of income and expenditure in 2-sector, 3-sector and 4- sector model,
* Concept of GDP and National Income;
* Methods for measurement of National Income and related aggregates;
* Nominal and Real income;
* Difficulties in calculating national income;
* Role of GNP measure in economic welfare.
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| **UNIT-II**1. **Income**

**Determination****: Output and****Employment**1. **Theories of Interest**
 | * Concept of aggregate demand; aggregate supply function,
* Derivation of aggregate supply curve;
* Classical theory of income and employment- Say’s law of market; Keynesian theory of income and employment- the principle of deficiency of effective demand;
* Keynes’ fundamental psychological laws of consumption function,
* factors determining consumption function; saving function, investment function, the concept of multiplier.
* Capital and Investment, Marginal efficiency of capital and investment, the concept of accelerator.
* Classical theory of interest- Abstinence and waiting;
* Neo-classical theory of interest- Loanable fund theory;
* Keynes Liquidity preference theory of interest,
* Neo-Keynesian theory- IS & LM Model
 |
| **UNIT-III****Balance of Payment** | * Concept and component of Balance of Payment;
* Distinguish between Balance of Payment and Balance of Trade;
* consequence or Causes of disequilibrium in the Balance of Payment;
* Various measures to correct imbalance in Balance of payment;
* Implication of Foreign trade multiplier;
* Concept of appreciation and depreciation of currency and its effect on foreign trade.
 |
| **Unit IV****Business Cycles** | * Meaning, Nature and Characteristics of trade cycles;

Theories of business cycle: over-saving, under consumption theory, innovation theory, Hawtray’s monetary theory, Haykes’ over- investment theory, Keynes view on trade cycle;* Samuelson-Hicks multiplier-accelerator interaction model,
* Control of Business cycle through relative efficacy of monetary and fiscal policies
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**Tutorials/ Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/ lecture period. Peer group teaching may be encouraged. Hard spots, if any, may be resolved during tutorials.

**Suggested Readings\***

(\*Reading lists may overlap in terms of subject matter. Therefore, students are advised to consult them accordingly.)

* Ackley, G(1978), Macroeconomics : Theory and Policy, Macmillan, New York
* Branson W.A(1989), Macroeconomic Theory anf Policy, Harper and Ror, New York
* Dornbush, R and F. Stanley(1997), Macroeconomics, Mc Graw Hill, Inc. New York.
* Edey, M and A.L. Peacock(1997), National Income and Social Accounts, Hutchinson University Library, London
* Gordon, R and S.G Harris(1998), Macroeconomics, Addison Wesley.
* Hall, R.E and J.B Taylor(1986), Macroeconomics, W.W. Norton, New York.
* Jha,R(1991),Contemporary Macroeconomic Theory & Policy, Wiley Eastern Ltd, New Delhi.
* Jhingan, M.L(2011), Macroeconomics Theory, 12th Edition, Vrinda Publications(P) Ltd.
* Mithani, D.M( ) , Macroeconomics,
* Romer, D.L(1996), Advance Macroeconomics, Mc Graw Hill Company, Ltd, New York.
* Ruggles, R and N Ruggles(1956) National Income Accounts and Income Analysis, Mc Graw Hill, New York.
* Seth, M.L( ), Macro Economics,
* Shapiro E(1996), Macroeconomic Analysis, Galgotia Publication, New Delhi

Vaish, M.C(2010), Macroeconomics Theory, Fourth Edition, Vikas Publishing House, Pvt Ltd.

**GROUP E: PROFESSIONAL EDUCATION COURSES (PEC)**

**I: Perspectives in Education (PE)**

**Semester III**

**PESS 201: SCHOOLING, SOCIALIZATION AND IDENTITY**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives of the Course:** On completion of course, the student-teachers will be able to:

* Become aware of the processes of socialization at home and school that act as shaping factors in identity formation of the school going child (in Indian contexts)
* Reflect critically on factors that shape identity formation and influence sense of self of the growing ‘student’ as well as ‘teacher’ in school as well as out of school.
* Understand the processes that have shaped/continue to shape one’s own sense of identity as ‘student’ and a ‘person’ located in multiple social contexts and roles
* Reflect on one’s aspirations and possibilities in order to develop a growing sense of agency as a ‘teacher’, a ‘professional’, as well as a ‘human being’.

**Course Contents**

**Unit I: Socialization and Development of Self**

* Understanding the nature and processes of socialization
* At home: family as a social institution; impact of parenting style/child rearing practices; transmission of parental expectations and values.
* In the community: neighbourhood, extended family, religious group and their socialization functions.
* At school: impact of entry to school; school as a social institution; value-formation in the context of schooling.

**Unit II: Emergence of ‘person’ and ‘identity’ and Schooling for identity formation**

* Understanding ‘identity formation’; emergence of multiple identities in the formation of a person placed in various social and institutional contexts; the need for inner coherence; managing conflicting ‘identities’.
* Determinants of identity formation in individuals and groups: such as caste, class, gender and religion.
* The influence of peer group, media messages, technology, and globalization on identity formation in contemporary Indian society.
* Schooling as a process of identity formation: ascribed, acquired and evolving.
* Potential role of school in developing national, secular and humanistic identities.

**Unit III: Coping with social complexities: Role of education**

* Expanding human activities and relations; decreasing unhealthy competition, uncertainty and insecurities and the resultant identity conflicts.
* Indian concept of ‘vasudhaiva kutumbakam’ and ‘sarvadharm sambhava’.

**Unit IV: Evolving a ‘holistic identity’ as a teacher**

* Reflections on one’s own aspirations and efforts in becoming a ‘teacher’.
* Evolving an identity as a teacher, which is progressive and open to re-construction.
* Teachers’ professional identity and Teachers’ professional ethics.

**Modes of Learning Engagement:**

* Introductory lectures-cum-discussion, to introduce key themes of the course – socialization, identity formation, sociological notions and experiential sense of ‘self’ etc.
* Observations of schools and classrooms through the lens of course themes; interviews with teachers; making field notes.
* Group discussion and exploration, around selected readings and key questions.
* Viewing selected documentaries and film clippings.
* Writing critical reviews of readings and films viewed.
* Presentations of reviews.
* Reflective, autobiographical writing, towards self-understanding, on given topics.
* Journal writing, on course experiences (to be initiated with this course; to be continued through the year, with occasional sharing with a ‘mentor’).

**Practicum/ Tutorials:**

* Visit to a school and studying the role of school in socialization of the child.
* Preparing notes on ways of managing conflicting identities with illustrations.
* Studying the school activities which enhance secular identity in children.
* Observing school processes that contribute to peaceful living of teachers and students.
* Describing ones’ own process of socialization quoting some experiences.
* Presentations based on readings and film reviews.
* Reflective written assignments (towards critical awareness of issues, for self-understanding and formulating aspirations as a teacher.
* Journal writing.
* Notes from field observations/interviews and linking these with course themes.

**Suggested Readings:**

1. Pathak, Avijit (2002). Social Implications of Schooling. New Delhi. Rainbow Publishers.
2. Kumar Krishna (2004). What is Worth Teaching? 3rd edition, Orient Longman.
3. Krishnamurti, J. Education and the Significance of Life. KFI Publications.
4. Butler, J. (1990). Gender Trouble Feminism and the subversion of Identity. New York. Routledge.
5. Sharma, R&E. Annamalai. (2003). Indian Diaspora In Search of Identity. Mysore. CIIL.
6. Kumar,K. (2001). Prejudice and Pride School Histories of the Freedom Struggle. New Delhi. Viking/Penguin.
7. Amalendu Misra (2004). Identity and Religion Foundations of Anti-Islamism in India. New Delhi. Sage Publications.
8. Dipankar Gupta (Ed.) (2004). Caste in question Identity or Hierarchy. New Delhi. Sage Publications.
9. Kamala Ganesh & Usha Thakkar (Ed.) (2005). Culture and Making of Identity in India. New Delhi. Sage Publications.
10. Saraswati, T.S. (Ed.) (1999). Culture, Socialization and Human Development. Theory Research and Applications in India. New Delhi. Sage Publication.
11. Sen Amartya (2006). Identity and Violence. The Illusion of Destiny. New Delhi. Allen and Lane Penguin Books India Pvt. Ltd.
12. Shashi Tharoor (2007). The Elephant, the Tiger &The Cell phone. (Particularly part two of the book). New Delhi. Penguin Viking.
13. Srinivas M.N. (1986). Social Changes in Modern India. Bombay. Allied Publishers.
14. Vidyanathan, T.G. (1989). ‘Authority and Identity in India’, in ‘Another India.’ Dae dalus, Fall, 118 (H): 147-69.

**GROUP E: PROFESSIONAL EDUCATION COURSES (PEC)**

**II: Enhancing Professional Capacities (EPC)**

**Semester III**

**EPYH 201: YOGA, HEALTH AND WELL BEING**

Time: 3 Hours Max. Marks: 50 Credits- 4 Theory: 40, Internal: 10

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 08 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 08 marks each.

iv) All questions will carry equal marks.

**Objectives of the Course:** On completion of the course, the student teacher will be able to:

* Understand the importance of games, sports and yoga for development of holistic health.
* Know the status, identify health problems and be informed of remedial measures.
* Know about safety and first aid.
* Acquire the skills for physical fitness.
* Practice yogasanas, meditation and relaxation.
* Understand various policies and programmes related to health, physical education and yoga.

**Course Contents**

**Unit I: Concept of Health, Body, First Aid**

* Concept of health, importance, dimensions and determinants of health, health needs of children and adolescents including differently abled children.
* Understanding of the body system – skeleton, muscular, respiratory circulatory and digestive in relation to health.
* Common health problems and diseases- causes, prevention and cure, immunization and first aid.

**Unit II: Food - habits, hygiene, diseases and their prevention, Safety, security and physical fitness**

* Food and nutrition, food habits, nutrients and their functions.
* Preservation of food value during cooking, indigenous and modern ways of preserving food.
* Practices related to food hygiene, malnutrition, obesity, food and waterborne and deficiency diseases and prevention.
* Safety and security – disasters in and outside schools, ways of prevention.
* Safety from snake and dog bites, animal attacks, prevention and treatment.
* Physical fitness, strength, endurance and flexibility, its components, sports skills and self- defence activities.

**Unit III: Athletics and Games**

* Athletics – general physical fitness exercises.
* Games – lead up games, relays and major games.
* Rhythmic activities, gymnastics and their impact on health.

**Unit IV: Yoga, Policies and Programmes for Health**

* Yogic practices – importance of yoga, yogasanas and pranayamas
* Role of institutions in developing healthy individuals- family, school and sports
* Health services, policies and health and physical education related programmes, blood banks and role of media

**Modes of Learning Engagement:**

* Interactive discussions, group work, sharing experiences, organizing activities, analyzing topics on health related issues.
* Demonstrations, observations, field visits, preparing work books, maintaining diary, participating in school health checkup, practical classes of first aid, projects and assignments.
* Playing games and sports and performing Asanas and Pranayamas

**Practicum/ Tutorials:**

* Rules regulations related to games, sports and yoga.
* Playing Volleyball, Basketball, Badminton and recreation games.
* Performing Suryanamaskara and selected yogasanas, mudras and pranayamas.
* Standing Asanas- Konasana, Trikonasana, Vrikshasana, Veerebhadrasana
* Sitting Asanas – Vajrasana, Gumukhasana, Navasana, Veerasana
* Lying on the stomach – Bhujangasana, Dhanurasana
* Body twisting asanas – Ardha Matsyendrasana, Vakrasana
* Back bending – Ushtrasana
* Mudras – Arham, Ananda Mudra
* Pranayama – Anuloma viloma, Bhramari

**Suggested Readings:**

1. Pande, P. K. (1988). Sports Medicine. Delhi. Khel Sahitya Kendra.
2. Larry G. Shaver. (1982). Essentials of Exercise Physiology. Delhi. Surjeet Publications.
3. Kanabur, Vyjayanthi V. (2007). Sports Nutrition the Scientific Facts. New Delhi. Kanishka Publishers.
4. Dheer. S. Kamal Radhika (2002). Organization and Administration of Physical Education. Friends Publications.
5. Chandler Timothy, Mohin Mike, Vamphew Wary (2007). Sports and Physical Education. London. Routledge Taylor Francis Group.
6. Verma, Veena (1999) Sports Psychology. Delhi. Sports Publication.
7. Prakash, Agam (1999) A Textbook of Health Education. Delhi. Sports Publication.
8. Uppla AK. (1996). Physical Fitness. New Delhi. Friends Publication.
9. Thani Lokesh (2003) Rules of Games and Sports. New Delhi. Sports Publication.
10. Sonkar Sathish. (1998). Methods, Measurement and Evaluation in Physical Education. Jaipur, Book Enclave.
11. NCERT, Position Paper, FGR (2006). Health and Physical Education. New Delhi. NCERT.
12. Seetharam AR (1996) Yoga for Healthy Living. Mysore. Paramahamsa Yogashrama.
13. Ganguly, S.K., Bera, T.K., Gharote, M.L.(2003) Yoga in relation to Health related physical fitness and academic achievement of school boys. In Position Paper, FGR (2006). Health and Physical Education. New Delhi. NCERT.
14. Gharote, M.L. (1976). Physical Fitness in relation to the practice of selected yogic exercises. In Position Paper, FGR (2006). Health and Physical Education. New Delhi. NCERT.
15. Kulkarni,D.D. (1997).Yoga and Neurophychology. In Position Paper, FGR (2006). Health and Physical Education. New Delhi. NCERT.
16. ’kekZ] vks- ih-] ¼2004½- ^[ksy ds eSnkuksa dh eki ,oa fuekZ.k dh fof/k ubZ fnYyh- [ksy lkfgR; dsUnzA
17. Ikljhtk ehuw] lijk pk#] ¼2004½- ^[ksy fpfdRlk Kku dks’k ubZ fnYyh- LiksVlZ ifCyds’kUlA
18. [kku] ,jkt vgen] oekZ] mek’kadj ¼1988½- ^QqVcky^ iVuk- Hkkjrh Hkou ifCy’klZ ,aM fMLVªhC;wVlA

**GROUP E: PROFESSIONAL EDUCATION COURSES (PEC)**

**IV: Engagement with the field (EF)**

**Semester III**

**EFWC 201: WORKING WITH COMMUNITY**

Time: 2 weeks Max. Marks: 50

Credits- 2 External Assessment: 50

**Objectives of the Course:** On completion of the course, the student teacher will be able to:

* Acquaint themselves with the factors working in the society/community i.e. knowledge of social realities.
* Develop the dignity of labour among them.
* Arouse their interest in the social and economic reconstruction oj the country.
* Make themselves aware of the educational problems and needs of thi society.
* Enable themselves for preparing youth for sustainable development.
* Develop their personality through community service.

**Methodology**: The students will spend 2 weeks at a stretch during the academic year in the identified village. Separate activities will be undertaken every year out of the following or given by the Institute.

**Suggested Activities:**

1. Shramdaan and beautification
2. Study of educational scenario of a community. Reporting the profile of each Institution/NGO/social organization, which is directly or indirectly concerned with educational /literacy programme.
3. Micro planning exercises for assessing the educational status of the community.
4. Organization of “Nukad Natak” “Cultural Programmes”, “Rallies” etc. for motivating the villagers for sending their wards to schools.
5. School mapping exercises for assessing the educational need of the community.
6. Study of enrolment, stagnation and dropout problems.
7. Exploring the community resources and finding means and ways of using them for betterment of school.
8. Adopting a community and implementation of the Lab Area Concept in adopted community.
9. Survey of nearby community (adopted community) and assessing its educational needs, social needs etc.
10. Conducting awareness programmes in the community- like Environment conservation, tree plantation, watershed management, health programmes like vaccination, polio drop etc. AIDS awareness, electoral awareness, load safety, human rights, women rights etc.
11. Organization of Literacy programmes in the community
12. Cleanliness drives in the community and awareness about their needs.
13. Character building programmes
14. Developing healthy food habits among the community
15. Conducting Vocational training programmes for self- employment.
16. Promoting peace oriented values in the community.
17. Remedial teaching work for poor and needy in the community.
18. Action Research regarding local problems in consultation with the community.
19. Promoting peace oriented values in the community.
20. Conducting Adult Education programmes
21. Assistance and working with local community in actual relief work whenever needed.
22. Training of community in First Aid.
23. Helping the children with special needs.
24. Conducting Vocational training programmes for self- employment.

**Modes of Learner Engagement:**

Proposed activities of the programme will be organized keeping in view the budgetary provision and the time of duration along with the required available facilities at the time of organization of the programme.

**Modes of Internal Assessment:**

Internal assessment of Punctuality, Regularity, Discipline, Cooperation and Performing Arts will be done through observation of the students and viva- voce will be conducted on their experiences and written report prepared by the student teachers.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCPH-I-201: PHYSICS: RENEWABLE ENERGY SOURCES**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The student teacher will be able to:

* Describe about the exploration of renewable energy systems and their effective tapping technologies.
* Discuss the source of energy in various renewable energy systems.
* Estimate the amount of energy in different types of renewable energy systems.
* Explain the feasibility of different types of energy sources.
* Apply the concepts learnt in new types of renewable energy.

**Course Contents**

**Unit I: Solar Energy**

Sun as Source of Energy, Availability of Solar Energy, Nature of Solar Energy, Solar Energy & Environment. Various Methods of using solar energy–Photothermal, Photovoltaic, Photosynthesis, Present &Future Scope of Solar energy. Hybrid wind energy systems-wind & diesel power, wind+ conventional grid, wind & Photovoltaic system etc.

**Unit II: Wind Energy**

Wind Energy: Basics &Power Analysis, Wind resource assessment, Power Conversion Technologies and applications, Wind Power estimation techniques, Principles of Aerodynamics of wind turbine blade ,various aspects of wind turbine design, Wind Turbine Generators: Induction, Synchronous machine, constant V&F and variable V&F generations, Reactive power compensation. Site Selection, Concept of wind form & project cycle, Cost economics & viability of wind farm.

**Unit III: Geothermal, Tide and Wave Energy**

Availability of Geothermal Energy – size and Distribution, Recovery of Geothermal Energy, Various Types of Systems to use Geothermal Energy, Direct heat applications, Power Generation using Geothermal Heat, Sustainability of Geothermal Source, Status of Geothermal Technology ,Economics of Geothermal Energy.

## Unit IV: Hydrogen Energy and Nuclear Energy

**HydrogenProduction:**Direct electrolysis of water, thermal decomposition of water, biological and biochemical methods of hydrogen production.

**Hydrogen Energy:** Hydrogen as a renewable energy source, Sources of Hydrogen, Fuel for Vehicles.

**Nuclear Energy:** Potential of Nuclear Energy, International Nuclear Energy Policies and Regulations. Nuclear Energy Technologies–Fuel enrichment, Different Types of NuclearReactors, Nuclear Waste Disposal and Nuclear Fusion.

**Suggested Readings:**

1. L L Freris, Wind energy Conversion Systems (PrenticeHall, 1990).
2. D A Spera, Wind Turbine Technology: Fundamental concepts of wind turbine technology(ASMEPress,NY,1994).
3. G L Johnson, Wind Energy Systems(PrenticeHall,1985).
4. J F Manwell, J GMcGowanandA LRogers, Wind Energy Explained(John Wiley & SonsLtd., 2010)
5. N K Bansal, et al., Renewable Sources of Energy and Conversion Systems (Tata McGraw-Hill, 1990)
6. Kreith and Kreider, Solar Energy Handbook (McGraw Hill, 1982)
7. M A Green, SolarCells,(Prentice Hall, 1981)
8. T Ohta, Solar Hydrogen Energy Systems (Pergamon Press, 1979)
9. D Methis, Hydrogen Technology for Energy(Knowledge Pubns, 2007)

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCPH-II-201: PHYSICS: NANO SCIENCE**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The student teacher will be able to:

* Get brief ideas regarding Nano Science.
* Know about synthesis and characterization of nano materials.
* Understand various applications of nano science.
* Establish multi-disciplinary links.

### Unit I: Overview

Size effects and crystals, nanoscopic scale and quantum confinement, one dimensional, two dimensional and three dimensional nanostructured materials, quantum Dots, types of nanostructure and properties of nanomaterials: shell structures, metal oxides, semiconductors, composites, mechanical, physical, chemical properties, carbon age, new form of carbon (CNT to Graphene), influence of nano over micro/macro,effects of nano scale dimensions on various properties –structural, thermal, chemical, magnetic, optical and electronic properties, effect of nano scale dimensions on mechanical properties - vibration, bending, fracture, emergence and challenges of nanoscienceand nanotechnology.

### UnitII: Synthesis of Nano materials

### Top-down and bottom-up approaches, Mechanical alloying and Ball milling, Plasma synthesis, Sol-Gel Synthesis, Inert gas Condensation, Electro deposition and other techniques,chemical vapour deposition, physical vapour deposition, Laser ablation, pulsed laser deposition.

### Unit III: Characterization tools

X-ray powder diffraction, Single crystal diffraction techniques, Thermogravimetry, Differential Thermal Analysis and Differential Scanning Calorimetry, Electron Energy Loss Spectroscopy, High Resolution Imaging Techniques- Scanning Electron Microscopy, Atomic Force Microscopy and Transmission Electron Microscopy,Optical characterization techniques- Raman spectroscopy and Ultra Violet-Visible (UV-Vis) spectroscopy

**Unit IV: Applications**

### Functional materials, Biomedical applications, Molecular Electronics and Nanoelectronics, Nano coating, Nanomaterials for renewable energy, Nanobots, Molecular electronics and Nanoelectronics, Environment related application, Membrane based application, Polymer based application.

**Suggested Readings:**

1. W R Fahrner,Nanotechnology and Nanoelectronics, (Springer (India) Private Ltd., 2011).
2. MMadou, Fundamentals of Microfabrication, (CRC Press, New York, 1997).
3. N Taniguchi, Nano Technology, (Oxford University Press, New York, 2004).
4. W Ahmed and MJ Jackson, Emerging Nanotechnologies for Manufacturing, (Elsevier Inc.,2014).
5. C P Poole, F J Owens, Introduction to Nanotechnology, (John Wiley and Sons, 2004).
6. CN R Rao and A K Sood, Graphene synthesis, properties and Phenomena (Wiley VCH, 2010).
7. A Krueger, Carbon Materials and Nanotechnology (Wiley-VCH, 2010).

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCCH-I-201: CHEMISTRY: GREEN CHEMISTRY**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The student teacher will be able to:

* Get brief ideas regarding Green Chemistry.
* Know about green synthesis.
* Understand various applications of green materials.
* Understand Future trends in Green Chemistry.

**Unit I:**

Green Chemistry: History, need, and goals. Green chemistry and Sustainability.Dimensions of sustainability, Limitations/Obstacles in pursuit of the goals of Green Chemistry.Opportunities for the next generation of materials designers to create a safer future.

**Unit II:**

**Examples of green synthesis/reaction:**

Green starting materials, Green reagents, Green solvents and reaction conditions, Green catalysis, Green synthesis- Real world cases, Traditional processes and green ones), Synthesis of Ibuprofen, Adipic acid etc and selected examples from US Presidential, Green Chemistry Challenge Award Winners.Basic principles of Green Chemistry and their illustrations with examples.Prevention of waste/by-products.Maximum incorporation of the materials used in the process into the final product (Atom Economy): Green metrics, Prevention/Minimization of hazardous/toxic products.Designing safer chemicals - different basic approaches, Selection of appropriate auxiliary substances (solvents, separation agents etc.), Energy requirements for reactions—use of microwave, ultrasonic energy, Selection of starting materials—use of renewable starting materials. Avoidance of unnecessary derivatization—careful use of blocking/protection groups.Use of catalytic reagents (wherever possible) in preference to stoichiometric reagents. Designing biodegradable products.Prevention of chemical accidents. Strengthening/development of analytical techniques to prevent and minimize the generation of hazardous substances in chemical processes.Development of accurate and reliable sensors and monitors for real time in process monitoring.

**Unit III:**

Examples of green synthesis/reaction: Green starting materials, Green reagents, Green solvents and reaction conditions, Green catalysis, Green synthesis- Real world cases, (Traditional processes and green ones) Synthesis of Ibuprofen, Adipic acid etc. and selected examples from US Presidential Green Chemistry Challenge Award Winners.

**Unit IV:**

Future trends in Green Chemistry: Oxidation-reduction reagents and catalysts; Biomimetic, multifunctional reagents; Combinatorial green chemistry; Proliferation of solvent less reactions; Non-covalent derivatization. Biomass conversion, emission control. Bio catalysis.

**Text Books and Reference Books:**

1. Green Chemistry: Theory and Practice. P.T. Anastas and J.C. Warner.Oxford University Press.

2. Green Chemistry: Introductory Text. M. Lancaster Royal Society of Chemistry (London).

3. Introduction to Green Chemistry. M.A. Ryan and M.Tinnesand, American Chemical Society (Washington).

4. Real world cases in Green Chemistry, M.C. Cann and M.E. Connelly. American Chemical Society (Washington).

5. Real world cases in Green Chemistry (Vol. 2) M.C. Cann and T.P.Umile. American Chemical Society (Washington)

**PRACTICUM/ PROJECT WORK:**

Candidate will be given a topic of project at the beginning of Semester III. The candidate is expected to collect pertinent literature and make a presentation based on the literature and the proposed plan of work at the end of Semester III.

Assignments will also be given based on different aspects of green chemistry.

 A committee of faculty members of chemistry section will evaluate the projects and assignment.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCZO-I-201: ZOOLOGY: BIODIVERSITY**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The student teacher will be able to:

* Get brief ideas regarding Biodiversity.
* Understand the faunal Biodiversity.
* Understand the Duties of the central and the State Government, Biodiversity management committees in conservation.

**Course Contents**

**Unit I: Biodiversity General Account**

1. Introduction to Biodiversity (Elements and concept of biodiversity).
2. Types of Biodiversity
3. Climatic Zones or zoogeographic zones of India
4. Indian Biodiversity, Vegetational Zones, Zones of Faunal distribution
5. Major Biodiversity areas of the world and India
6. Biodiversity Hot Spots
7. National Parks and Sanctuaries of Rajasthan and their biodiversity

**Unit II: Faunal Biodiversity**

1. Mammalian morphology, Adaptations in various groups of mammals.
2. Behavior and social organization in mammals; social and mating systems; territories; communication.
3. Bird’s morphology, Adaptations in various groups of birds, morphological and physiological adaptations.
4. Bird migration, breeding behavior, parental care.
5. Biology of major Indian amphibians, fresh water and marine turtles, crocodilians, lizards and snakes.
6. Identification and study of venomous snakes, action of their venom and first aid for snake bites.

**Unit III: Conservation Biology**

1. Introduction to conservation biology, values of biodiversity and conservation ethics.
2. Patterns and process of biodiversity, losses and threats to biodiversity.
3. Significance of ecological restoration in conservation.
4. Duties of the central and the State Government, Biodiversity management committees.
5. Red Data Book and its significance. Role of NGOs in conservation, International NGOs; UNEP, GEF, WCS, Bird Life International, Important NGOs in India& their contributions WWF, ATREE, BNHS, WTI, Kalpavriksha etc.
6. Important NGO movements, Chipko movement, Narmada BachavoAandholan, PaniPanchayats, Seed Movement etc.
7. Wildlife Protection Act, Biodiversity Act, Forest Act and other Rules and Acts for Biodiversity protection and conservation.

**Unit IV: Tools and Techniques**

1. Counting Methods or Population assessment (Total Count, Road Side Count, Waterhole Count, Nest Count, Camera trap Methods, Pugmark Census, Call Census, Radio tagging, Line transect, Quadrate Method, Mark-Recapture)
2. Sampling techniques and strategies (random, stratified and systematic).
3. Concept of species richness, evenness and diversity and their measures, Diversity indices.
4. Basic introduction of GPS and GIS

**Suggested Readings**:

1. Caughley, G., and Sinclair, A.R.E. (1994). Wildlife Ecology and Management. Blackwell Science.
2. Woodroffe R., Thirgood, S. and Rabinowitz, A. (2005). People and Wildlife, Conflict or Coexistence? Cambridge University.
3. Bookhout, T.A. (1996). Research and Management Techniques for Wildlife and Habitats, 5th edition. The Wildlife Society, Allen Press.
4. Sutherland, W.J. (2000). The Conservation Handbook: Research, Management and Policy. Blackwell Sciences
5. Hunter M.L., Gibbs, J.B. and Sterling, E.J. (2008). Problem-Solving in Conservation Biology and Wildlife Management: Exercises for Class, Field, and Laboratory. Blackwell Publishing.

**Practicals**:

* Identification of mammalian fauna, avian fauna, herpeto-fauna
* Identification of Venomous and Non venomous snakes
* Demonstration of basic equipment needed in biodiversity studies use, care and maintenance (Compass, Binoculars, Spotting scope, Range Finders, Global Positioning System, Various types of Cameras and lenses)
* Familiarization and study of animal evidences in the field; Identification of animals through pug marks, hoof marks, scats, pellet groups, nest, antlers etc.
* Demonstration of different field techniques for flora and fauna
* Visits to nearby Zoo, Museum, Forest, sea-shore, Nursery, Aquaria or any other relevant site must be arranged. The report of these visits will be submitted as part of the Practical work.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCBO-I-201: BOTANY: BIODIVERSITY**

Time: 3 Hours Max. Marks: 80 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The student teacher will be able to:

* Understand the plant biodiversity and its significance in human lives
* Understand the threats to plant biodiversity
* Understand about biodiversity conservation.

**Course Contents**

**Unit I: Biodiversity**

Plant diversity and its scope- Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agrobiodiversity and cultivated plant taxa, wild taxa. Values and uses of Biodiversity: Ethical and aesthetic values, Uses of plants.

**Unit II: Biodiversity Management**

 Loss of ecosystem diversity, Loss of agrobiodiversity, Projected scenario for biodiversity loss.

Management of Plant Biodiversity**:** Organizations associated with biodiversity management- Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR;

Biodiversity legislation and conservations, Biodiversity information management and communication.

**Unit III: Biodiversity Conservation**

Conservation of Biodiversity- ecosystem diversity, *In situ* and *ex situ* conservation, Social approaches to conservation, Biodiversity awareness programmes, Sustainable development.

**Unit IV: Importance of Forestry**

Role of plants in relation to Human Welfare; Importance of forestry in relation to medicine, timber, gums and resins.

**Suggested Readings:**

1. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and

Practices.Oxford and IBH Publications Co. Pvt. Ltd. New Delhi

1. Sharma P.D., 2010 Ecology and Environment. Rastogi Publications, Meerut

**Practicals:**

* Visit to nearby botanical gardens, biological park. The report of this needs to be submitted.
* Study of aquatic biodiversity by visit to some pond or lake.
* Study of aquatic biodiversity by making temporary micropreparations of the phytoplanktons, algae etc.
* Herbarium sheets preparation.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCMT-I-201: MATHEMATICS: DISCRETE MATHEMATICS**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks

**Objectives**: At the end of the course students will be able to:

1. Understand the concepts of Set Relation and function
2. Understand the concept of Graphs and planar graphs apply these in problem solving.
3. Explain the concept of Boolean algebra and lattices.

**Course Contents**

**Unit I:**

Set Relation and function, binary relations, equivalence relations and partitions, partial order relation and lattices chains and anti chains, pigeon hole principle, principle of inclusion and exclusion.

**Unit II:**

Computability and formal languages ordered sets languages, phase structure grammars types of grammars and languages permutations, combinations' and discrete probability

**Unit III:**

Graphs and planar graphs; basic terminology, multigraphs, weighted graphs paths and circuits travelling sales person problem, plannar graphs, trees.

**Unit IV:**

Boolean algebra: lattices, algebraic structures, duality, distributive and complemented lattices, boolean lattices, and boolean algebras, boolean functions as expressions.

**Suggested Readings:**

* + - 1. Elements of Discrete mathematics: C.L. Liu, McGraw Hill, International editions, 2008.
			2. Graph Theory: NarsinghDeo, Prentice Hall of India, 2004.
			3. Discrete Mathematics: N.L. Biggs, Oxford Science Publication, 1985.
			4. Discrete Mathematics and its Applications: Kenneth H. Rosen, McGraw Hill, 1999.
			5. Discrete Mathematics with Applications: T. Koshy, Academic Press, 2005.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCED-I-201: EDUCATION: GUIDANCE & COUNSELLING IN SCHOOL**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** After completion of the course, student-teachers will be able to:

* Develop an understanding of the concepts of guidance and counselling.
* Develop an understanding of educational, vocational and personal guidance.
* Acquaint the students with the testing devices and techniques of guidance.
* Develop an understanding of collection and dissemination of occupational guidance.
* Sensitize student-teachers to the problems faced by students in the contemporary world.
* Create an awareness of the working of guidance centers.
* Provide guidance &counseling for school level students.

**Course Contents**

**Unit I: Concept of Guidance and Counseling**

* Meaning, Nature & Functions of Guidance.
* Principles of Guidance.
* Need of Guidance at various stages of life.
* Types of Guidance:

(i) Educational Guidance – Meaning and need at Secondary level.

(ii) Vocational Guidance – Meaning and need at Secondary level.

(iii) Personal Guidance – Meaning and need at Secondary level.

**Unit II: Concept of Guidance and Counseling**

* Meaning, Nature and Functions of Counseling
* Theories of Counseling:
	+ Theory of Self (Rogers)
	+ Rational Emotive Behavioural Therapy (Albert Ellis).
* Types of Counseling: Directive, Non directive, Eclectic.
* Process of Counseling (Initial disclosure, in depth exploration and commitment to action).

**Unit III: Testing and Non- testing devices for the study of an Individual**

* Tests: Aptitude, Attitude, Interest, Achievement, personality, IQ and Emotional, Mental ability, Intelligence etc.
* Techniques used in guidance: Questionnaire, Interview schedule, Case study, Diary and Autobiography.
* Professional efficacy and interest.

**Unit IV: Contemporary issues and Skills in Guidance & Counselling**

* Dealing with depression and academic stress (with regard to their identification and intervention). Guidance Implication in (Current Indian scenario, Education and Guidance: Democracy and Guidance, Individual Differences and Guidance, planning of Guidance cell in school.
* Skills in Counseling (Listening, Questioning, Responding, Communicating.
* Role of Teacher as a counselor and professional ethics associated with it.
* Career Counseling and Dissemination of Occupational Information.

**Practicum/ Tutorials:**

* Organize a workshop in school on guidance for secondary level students.
* Group discussion among pupil teachers on types of guidance.
* Pupil Teacher should guide at least one school student in any area of guidance and prepare a report to this effect.
* Organize an orientation program for student teacher on skills in counseling (listening, questioning, communicating etc.)
* Organize a Counseling program for the student who is guided by teacher student in the area/type of Guidance.Student teacher would practice on Counseling skill (at least three Time duration with 5-7 Minute per skill)
* Apply “Professional Interest test” on secondary student on the basis of interprelation, and give professional guidance to the students.
* Prepare a case study of one student with special needs at school level and give suggestions for remedial measure, too.
* Make a flow chart on Job Analyze opportunities and present it in school among secondary students.
* Organize a programme on occupational detail Information (like area, agencies and future etc.) for school level
* Prepare a plan and establish a guidance and Counseling cell in school.
* Make a stress releasing strategy for school students and find out its effectiveness.

**Suggested Readings:**

1. Sharma, Shati Prabha. Career Guidance and Counselling: principles and techniques. Kanihka publisher. 2005
2. Sharma, RN & Sharma, Rachana. Guidance and Counselling in India. Atlantic Pub. & Distributors, New Delhi, 2004
3. Singh, Y.K. Guidance and Career Counselling. APH Publishing New Delhi. 2007 4. Nayak, AK. Guidance & Career Counselling. APH Publishing corp. 2007
4. Abraham, Jessy. Guidance & Counselling for Teacher Education. Sarup & sons. New Delhi. 2003
5. vLFkkuk] fofiu] ijke'kZ ,oa funsZ'ku- vxzoky izdk'ku] 2014
6. vLFkkuk] fofiu ,oa vLFkkuk fuf/k funsZ'ku vSkj micks/ku] vxzoky izdk'ku] 2013&14
7. HkVukxj] lqjs'k ,oa oekZ] jkeiky- o`frd lwpuk ,oa o`frd funsZ'ku] vxzoky izdk'ku 2012
8. t;loky] lhrkjke f'k{kk esa funZs'ku ,oa ijke'kZ vxzoky izdk'ku 2014
9. mik/;k;] jke oYyHk ,oa t;loky]lhrkjke f'k{kk esa funsZ'ku ,oa ijke'kZ dh Hkwfedk vxzoky izdk'ku 2014

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCED-II-201: EDUCATION: PEACE ORIENTED VALUE EDUCATION**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** After completion of the course, student-teachers will be able to:

* Understand the importance of peace education.
* Analyse the factors responsible for disturbing peace.
* Appreciate the role of peace in life.
* Develop insight of understanding of concept of Indian values according to time, space and situation.
* Scientifically analyse values in Indian culture and tradition.
* Develop positive attitude about Indian human values
* Understand the Indian values according to Shradhha and logic.
* Understand the co-ordination with Indian values and life style.
* Analyse the ethical, artistic and pleasant values.
* Analyse absolute values in globalization and universlization.
* Develop the teaching learning method for adoptation and assimilation in life value.
* Explain fundamental aims and values that provide the intellectual basis of contemporary education policy and practice.
* Engage with issues in a manner that make them sensitive to promote certain educational values while marginalizing others.
* Explore the meaning of Ethics and values.
* Understand the process of value education.

**Course Contents**

**Unit I: Understanding Education for Peace**

* Meaning, aims, objectives of Peace and Peace Education.
* Need and Importance of Peace Education.
* Barriers: Psychological, Cultural, Political.
* Peace promoting values: compassion, cooperation and love.
* Empowerment of self through critical self- reflection.
* Reducing prejudices and nurturing ethical behaviour.

**Unit II: Nature andsources of values, Classification of values**

* Meaning, concept need and importance of values and ethics.
* Personal and Social values
* Intrinsic and extrinsic values on the basis of personal interest and social good.
* Social, moral, spiritual and democratic values on the basis of expectation of society and one’s self inspiration.
* Identification of Analysis of emerging issues involving value conflicts
* Design and development of instructional material for nurturing values.

**Unit III: Values in religious scriptures**

* Bhagwadgita- Nishkam Karma, Swadharma, Laksagrah and Stithpragya.
* Bible – Concept of truth, compassion, forgiveness
* Dhamnipada- Astangmarg, Aryastya and Madhyamarg
* Gurugranth Sahib- Concept of Kirath, Sungat, Pangat & Jivanmukti
* Quran – Concept of spiritual and moral values (adah, raham & theory of justice) & social responsibilities.

**Unit IV: Methods and Evaluation of Value Education**

* Traditional Methods: Story Telling, Ramleela, Tamasha, street play and folk songs.
* Practical Methods: Survey, role play, value clarification, Intellectual discussions.
* Causes of value crisis: material, social, economic, religious evils and their peaceful solution.
* Role of school- Every teacher as teacher of values, School curriculum as value laden.
* Moral Dilemma ( Dharmsankat) and one’s duty towards self and society

**Practicum/Tutorials:**

* Preparation of a report on school programmes for promotion of peace.
* Observation of classroom situation and identification of factors promoting peace.
* Analyse morning assembly programme of a school from the point of view of value education.
* Analysis of a text book of a school subject from the point of view of values hidden.
* Practice of role- play in two situations and preparation of report.
* Report on value conflict resolution in a situation.

**Suggested Readings:**

1. voLFkh 'kf'k & izkphu Hkkjrh; lekt] fgUnh ek/;e dk;kZUo;u funs'kky;] fnYyh fo'ofo/kky;] fnYyh 1993
2. moZ'kh] ljrah & uSfrd f'k{kk ,oa ckyfodkl] izHkkr izdk'ku] pkoMh cktkj] fnYyh ] 1979
3. dk.ks ih-ch- & /keZ'kkL=h dk bfrgkl] m-iz- fgUnh laLFkku] fgUnh Hkou] egkRek xk/akh ekxZ] y[kuÅA
4. xqIrk uRFkwyky & ewY;ijd f'k{kk i)fr] t;d`".k vxzoky] egkRek xk/akh ekxZ] vtesj 1989
5. xks;udk t;n;ky & egRoiw.kZ f'k{kk] xhrkizsl xkjs [kiqjA
6. ik.Ms; xksfoUnpUn & ewY; ehekalk & jktLFkku fgUnh xzUFk vdkneh] fryd uxj] t;iqj] 1973A
7. iz lglz cq)s % thou ewY;] lq:fp lkfgR;] ds'kodqat] >.Ms okyku] ubZ fnYyh]
8. Hkkjrh /keZohj & ekuo ewY; vkSj vkSj lkfgR;] Hkkjrh; KkuihB] dk'kh] 1972
9. ekuo lsok la?k] o`ankou & ekuork ds ewy fl)kUr 1981
10. feJ fo/kkfuokl & v/;kiu] Hkkjrh; n`f"V] ,ulhVhbZ] ubZ fnYyh 1988
11. foey dqekj & ewY; ehekalk] jktdey izdk'ku] fnYyh
12. Acharya Mahaprija : Towards Inner Harmony, New Delhi, B. Jain Publishers, 1999
13. Dutt, N.K. and Ruhela S.P. : Human Values and Education, Sterling Publishers Pvt. Ltd., New Delhi, 198
14. Gandhi K.L. : Value Education, Gyan Publishing House, New Delhi, 1993
15. Gupta, Nathu Lal : Value Education : Theory and Practice : Jaikrishan Agarwal,Mahatma Gandhi Road, Ajmer – 2000
16. I.A. Lolla : Value Certification : An advanced Handbook for trainers and Teachers, Calif, University Associate Press, Krischan Boum, Howard 1977
17. Prem Kripal : Value in Education, NCERT, New Delhi 1981
18. Rajput, J.S. (2001). Values in Education, New Delhi, Sterling Publishers, 2005
19. Rokeach M. : The Nature of Human Values, The Free Press , New York 1973
20. Sharma R.S. : The Monk who sold his Ferrari, Mumbai, Jaico Publishing House, 2003
21. Swami Ragunath Anand: Eternal Values for a Changing Society, BVB Bombay 1971.
22. Gupta, K. M. (1989). Moral Development of School Children Gurgaon: Academic Press.
23. Krishnamurthy, J. (2000). Education and the Significance of Life. Pune: KFI.
24. Dhokalia, R. P. (2001). External Human Values and World Religious. New Delhi: NCERT.
25. Sheshadri, C., Khadere, M. A., & Adhya, G. L. (ed.) (1992). Education in Value. New Delhi: NCERT, London, Allen and Unwin.
26. Singh, R. N. (ed.) (2003). Analytical study of Sikh Philosophy, Commonwealth Publishers: New Delhi- 02.
27. Khan Masood Alia (ed.) (2006). Islamic Thought and its Philosophy. Commonwealth Publishers: New Delhi- 02.
28. Khan, Intakhab Alam (2007). Peace, Philosophy and Islam, Academic Excellence. Delhi- 31.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCLH-201: LANGUAGE: jpukRed ys[ku ,ao vuqokn**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

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**CBCLE-201: LANGUAGE: LANGUAGE LITERATURE & EDUCATION**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The students will be able to:

* Acquaint themselves with literary creations in other Indian language.
* Appreciate literary pieces from other languages of India.
* Understand the literary and cultural ethos of the country.

**Unit I: Language, Society & Culture**

* Language and Society
* Language and Culture
* Language and Identity
* Language and Gender

**Unit II: Literature, Society & Culture**

* Concept and Scope of Literature
* Literature and Society
* Importance of Literature for Society
* Impact of Literature on Society and Vice Versa

**Unit III: Language and Education**

* Language for Education
* Role of Language in Education
* Relationship between Language and Education
* Impact of Language on Education

**Unit IV: Literature and Education**

* Literature for Education
* Role of Literature in Education
* Relationship between Literature and Education
* Impact of Literature on Education

**Suggested Readings:**

1. Hall, G. *Literature in Language Education*. London: Palgrave Macmillan. 2005.
2. Aldama, Frederick Luis. *Why the Humanities Matter: A Commonsense Approach.* Austin: University of Texas Press. 2008.
3. Yadav, Saryug. *Language, Literature and Education*. New Delhi: Academic Excellence. 2008.
4. Mishra, A. K. *Literature, Culture and Language Education*. New Delhi: Lakshi Publishers. 2012.

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCGE-201: GEOGRAPHY: BASICS OF GEOGRAPHICAL INFORMATION SYSTEM- GIS**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks

**Objectives:** The students will be able to:

* To introduce elementary concepts of GIS
* To explain main characteristics of geographical data
* To understand the application of GIS in solving problems of spatial nature.

**Unit I:**

Definition and components of GIS – hardware, software, data, people or ‘liveware’; Structure of GIS

**Unit II:**

Geographical data: types and characteristics; Spherical and plane coordinate systems in GIS;

Implications of earth’s shape and datum in geo-referencing,

**Unit III:**

Digital representation of geographic data: Data structure, Spatial data model, Raster and Vector models;

GIS data standards: concepts and components; Digital Elevation Model (DEM).

**Unit IV:**

Recent trends in GIS; Mobile GIS; Global Position System; Integration of Remote sensing and GIS; GIS data base management systems; GIS information products; Applications of GIS.

**Suggested Readings:**

1. Burrough, P.A. and McDonnell, R. (1998): Principles of Geographic Information Systems. Oxford University Press, Oxford.
2. Chang, K.T. (2003): Introduction to Geographic Information Systems. Tata McGraw Hill Publications Company, New Delhi.
3. Chauniyal, D. D. (2004): Remote Sensing and Geographic Information Systems, Sharda Pustak Bhawan, Allahabad. (in Hindi).
4. Demers, M. N. (2000): Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore.
5. ESRI (1993): Understanding GIS. Redlands, USA
6. Fraser Taylor, D.R. (1991): Geographic Information Systems. Pergamon Press, Oxford.
7. George, J. (2003): Fundamentals of Remote Sensing. Universities Press Private Ltd, Hyderabad.
8. Glen, E. M. and Harold, C. S. (1993): GIS Data Conversion Handbook. Fort Collins, Colorado, GIS Word Inc.
9. Guptill, S.C., and Morrison, J.L. (1995): Elements of Spatial Data Quality. Elsevier/ Pergamon, Oxford.
10. Heywood, I. (2003): An Introduction to Geographical Information Systems. 2nd edition, Pearson Publishing Company, Singapore.
11. Korte, G. M. (2002): The GIS Book. On Word Press: Thomson Learning, New York and Singapore.
12. Lo, C.P. and Yeung, A. K. W. (2002): Concepts and Techniques of Geographic Information Systems. Prentice Hall of India, New Delhi.
13. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems.
14. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
15. Martin, D. (1996): Geographic Information Systems: Socioeconomic Implications. Routledge, London.
16. Michael F. G. and Karan K. K. (ed.) (1990): Introduction to GIS. NCGIA, Santa Barbara, California.
17. Demers, M. N. (2000): Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore.
18. ESRI (1993): Understanding GIS. Redlands, USA
19. Fraser Taylor, D.R. (1991): Geographic Information Systems. Pergamon Press, Oxford.
20. George, J. (2003): Fundamentals of Remote Sensing. Universities Press Private Ltd, Hyderabad.
21. Glen, E. M. and Harold, C. S. (1993): GIS Data Conversion Handbook. Fort Collins, Colorado, GIS Word Inc.
22. Guptill, S.C., and Morrison, J.L. (1995): Elements of Spatial Data Quality. Elsevier/ Pergamon, Oxford.
23. Heywood, I. (2003): An Introduction to Geographical Information Systems. 2nd edition, Pearson Publishing Company, Singapore.

**Practical: Basics of Geographical Information System**

* Principles of GIS; Properties of EMR
* Geographical data: types and characteristics;
* Spherical and plane coordinate systems in GIS;
* Implications of earth’s shape and datum in geo-referencing
* Preparation of choropleths maps

**Practical Record File:**Students will be required to prepare a practical record file consisting of all exercises in the paper.

**Assessment Modalities:** The assessment modality will involve a term-end examination towards the end of the semester.

* The term-end examination may carry:
	+ Lab Work (Any 2 out of 3 exercise)
	+ Record File
	+ Viva

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCHS-201: HISTORY: HERITAGE & TOURISM**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks

**Objectives:** The students will be able to:

* Understand the different facets of heritage, Tourism and their significance.
* Highlights the legal and institutional frameworks for heritage protection in India as also the challenges facing it.
* The implications of the rapidly changing interface between heritage and history will also be examined.
* The course will be strongly project- based on visits to Museum/Heritage Sites

**Course Contents**

**Unit I:**

* Heritage- Meaning and Significance,
* Types- Cultural Heritage, Natural Heritage, Living Heritage (Folk Art, Festivals, Living Styles etc.)
* Tangible and Intangible Heritage

**Unit II:**

* Heritage Organization/ Structure: Forts, Palaces
* Museums, Natural Reserves.
* Role and Significance of Heritage in tourism, Heritage Tourism, Cultural Tourism and Eco Tourism

**Unit III:**

* Museum and the Cultural Heritage: India's Cultural Policy
* Policy of Government of Rajasthan
* General Principles and Societies role for maintenance of Rajasthan

**Unit IV:**

* World Heritage sites of India with special reference to Rajasthan
* Role of UNESCO in Heritage
* Guidelines of UNESCO

**Tutorials/Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/lecture periods, Peer group teaching may be encouraged. Hard spots if any may be resolved during tutorials. Visit to Tourist site and Preparation of report (Practical).

**Suggested Readings:**

* x<+ohj- ekFkqj- i;ZVu% n'kkofn'kk – fyVjsjhlfdZy- t;iqj
* lgk;] f'koLo:i- i;ZVu fl/kkUr vkSj çca/ku rFkk Hkkjr esa i;ZVu- eksrh yky cukjlh nkl
* lgk;] f'ko Lo:i- i;ZVdksa dk ns'k Hkkjr- eksrh yky cukjlh nkl
* Roy Chowdhury, Maduparna. Diplaying India's Heritage. Orient Blackswan
* David Lowenthal. The past :The Heritage Crusade and the Spoils of History.Cambridge,2010
* Layton R.P. Stone and J. Thomas. Destruction and conservation of cultural property, London :Rutledge,2001
* Lahiri N. Marshaling .The Past –Ancient India its Modern Histories, Ranikhet: Permanent Black.2012, Chapter 4 and 5
* S S Biswas. Protecting the cultural heritage (National Legislations and International Conventions). New Delhi : INTACH, 1999
* Agarwal O.P. Essentials of conservation and Museology, Delhi, 2006

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCPS-201: POLITICAL SCIENCE: DEMOCRACY AT WORK**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** On completion of the course the students – teacher will be able to:

* Acquire knowledge about the working of democracy in India.
* Understand the societal basis of democracy as providing opportunities to flourish diversity through civil liberties.
* Understand Democracy as Representative, Responsible and Participatory.
* Appreciate the Democratic process as not merely a rule of Majority but Tolerance to words dissent.
* Acquaint themselves with the dividends of Democracy in India.

**Unit I:**

Democratic society: Understanding of Diversities, Fundament Rights, Fundamental Duties, Mass Media, Political Parties, Pressure Groups.

**Unit II:**

Democratic Government: Universal Adult Franchise, Representation, Parliamentary Government, Federal system, Local government at Rural and Urban areas.

**Unit III:**

Democratic Process: Accommodation of Social, Economic and Cultural diversities, Rule of law, Independent Judiciary

**Unit IV:**

Redressal of Public Grievances, Right to Information, Right to Education, MGNREGA.

**Tutorials/ Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/ lecture period. Peer group teaching may be encouraged. Hard spots, if any, may be resolved during tutorials.

**Suggested Readings\***

(\*Reading lists may overlap in terms of subject matter. Therefore, students are advised to consult them accordingly.)

1. D.D. Basu : An Introduction to the Constitution of India, New Delhi. Prentice Hall, 1994.
2. G. Austin : Working a Democratic Constitution the Indian Experience. Delhi, Oxford University Press, 2000.
3. R. C. Agarwal :Indian Government and Politics (India Political System) 5th ed. S.Chand and Co., New Delhi 2000
4. N.G. Jayal (ed.), Democracy in India, Delhi, Oxford University Press. 2001.
5. A.G.Noorani, Constitutional Questions in India : The President, Parliament and the States Delhi, Oxford University Press, 2000.
6. Payl, Flather : Recasting Indian Politics – Essays on a Working Democracy Palgsave 2002.
7. Niraja Gopal Jayal. Democratic Governance in India : Challenges of Poverty Development and identity. Sage Publications, New Delhi
8. S.N.Singh, Caste Tribe and Religion in Indian Politics, Sai, New Delhi, 2006
9. MkW t;jke mik/;k; & Hkkjr dk lafo/kku] lsUVªy ykW ,tsUlh] bykgkckn] 2007
10. ch- ,y- QM+h;k & Hkkjrh; 'kklu ,oa jktuhfr] lkfgR; Hkou ifCyds'kul] vkxjk] 2007
11. MkW , ih voLFkh & Hkkjrh; 'kklu o jktuhfr] y{eh ukjk;.k vxzoky] vkxjk 2006
12. ,l ,e lbZn & Hkkjrh; jktuhfrd O;oLFkk] lqyHk izdk'ku]y[kuÅ 2004

**GROUP G: CHOICE BASED COURSES (CBC)**

**Semester III**

**CBCEC-201: ECONOMICS: RECENT TRENDS & PRACTICES IN ECONOMICS**

Time: 3 Hours Max. Marks: 100 Credits- 4 Theory: 80, Internal: 20

NOTE FOR PAPER SETTER FOR THEORY EXAMINATION

i) Paper setter will set 9 questions in all, out of which students will be required to attempt 5 questions.

 ii) Q.No. 1 will be compulsory and will carry 16 marks. There will be atleast 4 short-answer type questions selected from the entire syllabus.

 iii) Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 16 marks each.

iv) All questions will carry equal marks.

**Objectives:** The students will be able to:

The objective of this course is the make the students aware of the fundamentals of economics and also the contemporary issues

**Unit I: Educational Economics**

* Review of Economic Principles
* Human Capital Theory
* Job Signalling
* Educational Production Functions
* The Market for Teachers
* Teacher Incentives
* Market Dimensions of Higher Education
* Student Aid Policy and Collegiate Outcomes
* Financial Issues in Higher Education

**Unit II: Social Economics**

* Discrimination, the market, statistical discrimination, minimum wage, gender
* Discrimination, exclusion
* Income inequality and poverty, causes of income inequality and poverty (inflation)
* Income distribution over time, the official poverty rate
* Unemployment, measurement, types and cost of unemployment, interpreting theunemployment rate, social security

**Unit III: Entrepreneurship and development**

* The critical roles played entrepreneurship in Innovation systems.
* The differences between industrial and agricultural start-ups?
* Role of government in fostering entrepreneurship

**Unit IV: Technology and globalization**

* The importance of foreign technology in national innovation systems.
* Role played by global value chains play in evolution of innovation systems.
* Contribution of Policy approaches by emerging economies to tap into global value chains.

**Tutorials/ Practicum:** Students will work in groups on the practical aspects of the knowledge gained during contact/ lecture period. Peer group teaching may be encouraged. Hard spots, if any, may be resolved during tutorials.

**Suggested Readings\*:**

(\*Reading lists may overlap in terms of subject matter. Therefore, students are advised to consult them accordingly.)

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