Ph.D. EDUCATION

(with effect from the academic year 2021-2022 onwards)

Sl. No.	Title of Course Work Paper	Credit
1.	Educational Studies	4
2.	Educational Statistics	4
3.	Curriculum Studies	4
4.	Educational Policy, Planning & Financing	4
5.	Educational Evaluation	4
6.	Mini Project	4
7.	Applications of Educational Psychology	4
8.	Prospects of Elementary Education	4
9.	Prospects of Secondary Education	4
10.	Organisation and Administration of Teacher Education	4
11.	Perspectives, Issues and Research in Teacher Education (e-PG Pathshala)	4
12.	Andragogy of Education	4
13.	Antiquity, Politics and Economics of Education	4
14.	Technology Blended Education	4
15.	Inclusive Education	4
16.	Environmental Education	4
17.*	Research and Publication Ethics	2

* Refer: Ph.D Common syllabus for all.

EDUCATIONAL STUDIES

	L	T	P	C
	3	2	0	4

Preamble:

Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs, and habits. Education frequently takes place under the guidance of educators, but learners may also learn by themselves. In addition to the formal/informal setting of education, the experience of an individual has a formative effect on the way he/she thinks, feels, or acts. This course brings together the various perspectives of education including its interdisciplinary nature, socio–cultural contexts, and place of education in constitution and also reflects its various support systems. The learner will understand education as a key discipline for learning. The vital features of education in Indian scenario are focused in this course.

Expected Outcomes:

After completing the course, the student will be able to -
- understand the nature of education as a discipline/an area of study;
- compare and contrast the strength and limitation of western school of thoughts and Indian school of philosophy;
- understand the basic concepts/issues of education with reference to the NCF (2005) and the NCFTE (2009);
- examine critically the theories and basic concepts of education drawn from various disciplines cognate to education; and
- reflect on the multiple contexts in which the schools are working.

Unit I - Indian Perspectives

Contribution of Indian Schools of Philosophy: Sankhya Yoga, Vedanta, Buddhism and Jainism (with special reference to Vidya, Nyaya, Darshan) - Islamic Education

Unit II - Western Perspectives

Idealism – Realism – Naturalism – Pragmatism – Marxism – Existentialism - Their contribution to Education with special reference to information, knowledge and wisdom

Unit III - Education as a Discipline / an Interdisciplinary Knowledge

Concepts, principles, theories, assumptions and contexts related to education -

Discipline: schooling – Curriculum – Syllabus - Text books - School education: Contemporary challenges - Aims of Indian education - Interdisciplinary nature of education – Relationship of Education with philosophy, psychology, sociology, management, economics, anthropology - Challenges to education - Axiological issues in education - Role of peace and other values

Unit IV - Socio-cultural and Political Contexts of Education

Social purpose of education – Cultural purpose of education - Teaching in the context of diversities - Appraisal of the role of school, parents, peer group and the community - Multiple schools contexts: rural/urban, tribal, schools affiliated to different boards - Role of personnel in school management - Learner-friendly school environment - School as site of curricular engagement, struggle and social change - Teacher's autonomy - academic freedom

Unit V- Support Systems of Education

Support systems: Principles and guidelines - Department of Public instruction, Ministry and other government agencies, Academic Institutes: Role, involvements, issues related to control and autonomy – Participation of stakeholders in school education: NGOs, civil society groups, teacher organisations, parents, family, PTA and local community

References:

1. Aggarwal, J.C & Gupta, S. (2006). *Great philosophers and thinkers on education*. New Delhi: Shipra Publications.
2. Banrs, J.A. (1996). *Cultural diversity and education: Foundations curriculum and teaching* (4th ed.). Boston: Alynand, Becon.
3. Beyer, L.E. (Ed.) (1996). *Creating democratic classrooms: The struggle to integrate theory and Practice.* New York: Teachers College Press.
4. Butchvarov, P. (1970). *The concept of knowledge*. Evanston, Illinois: North Western University Press.
5. Delors, Jacques et al. (1996). *Learning: The treasure within report of the international commission on education for 21st century*. UNESCO.
6. Heyes, D., Hills, M., Chistie, P & Lingard, B. (2007). *Teachers and schooling: Making a difference*. Australia: Allen and Unwin,
7. *International encyclopedia of education - Vol.10.* (2nd ed.) (1994). Perganon Press.
8. Matheson, David (2004). *An Introduction to the study of education* (2nd ed.). UK: David Fulton Publish.

9. Mohanty, J.E. (1982). *Indian education in the emerging society,* New Delhi: Sterling Publications.

10. Slatterry, P & Rapp, D. (2002). *Ethics and the foundations of education-Teaching Convictions in a postmodern world.* Boston: Allyn & Bacon.

11. Wall, Edmund (2001). *Educational theory: Philosophical and political Perspectives.* Amherst NY: Prometheus Books.

12. Winch, C. (1996). *Key Concepts in the philosophy of education.* Oxfordshire U K: Routledge.

EDUCATIONAL STATISTICS

	L	T	P	C
	3	2	0	4

Preamble:

This paper capacitates to acquire knowledge about the fundamental concepts and procedures of descriptive and inferential statistics. The need of statistics to analyse the data which the students collect for their research work for inquiry in the social and behavioral sciences during the current programme and to utilize the same in their future research ventures is made clear through this course.

Expected Outcomes:

After completing the course, the student will be able to -

- understand the meaning and need of statistics in educational researches;
- know the difference between descriptive and inferential statistics;
- distinguish parametric and non-parametric statistics; and
- select and apply appropriate statistical techniques.

Unit I – Introduction to Statistics

Statistics – Meaning and scope, Types of measurement scale - Data: Sources, acquisition and classification of data - Quantitative and qualitative data - Graphical representation: Bar-chart, Histogram, Pie-chart, Table-chart and Line-chart - Mapping of data

Unit II - Descriptive Statistics

Quantitative data analysis - Descriptive data analysis: Measures of central tendency and Dispersion, variability, fiduciary limits – Elementary ideas of probability, Normal probability curve - Qualitative data analysis - Data reduction and classification, Analytical induction and constant comparison, Concept of triangulation – Data interpretation - Data and governance

Unit III – Correlation and Prediction

Scatter Diagram – meaning and uses, Product moment and Rank Correlations, Biserial, Point biserial, tetrachoric and phi-coefficient correlations, Partial and multiple correlations, and applications - Linear regression equations, Prediction of variables, Multiple regression

Unit IV - Parametric Tests

Sampling distribution - Standard error - Estimation of population parameters - Testing of Hypothesis - Type I and Type II errors - Degrees of freedom - Levels of significance - Power of a statistical test - Effect size - Errors in making inference - Parametric techniques - Conditions to be satisfied for using parametric techniques - t-tests, z test, ANOVA

Unit V - Non-parametric Tests

Sign test - Median test - Chi-square Test – Kolmogrov-Smirnov test - Two sample Mann-Whitney test - Kruskal-Walli's test

References:

1. Argyrous, George. (2011). *Statistics for research.* New Delhi: Sage.
2. Aron, Arthur., Aron, Elaine N., & Coups, Elliot. (2012). *Statistics for psychology*. Noida: Pearson.
3. Best, John W., & Kahn, James V. (2012). *Research in education (10th ed.).* New Delhi: Prentice Hall of India.
4. Garrett, Henry. (1961). *Statistics in psychology and education*. New Delhi: Paragon International Publishers.
5. Guiford, J.F. (1950). *Fundamental statistics in psychology and education.* NY: McGraw Hill.
6. Gupta, C. (1981). *Fundamentals of statistics.* Bombay: Himalaya Publishing House.
7. Mangal, S.K. (2002). *Statistics in psychology and education* (2nded.). New Delhi: Prentice-Hall of India.
8. Pillai, R.S.N., Bagavathi. (2013). *Statistics: Theory and practice*. New Delhi: S. Chand & Company.
9. Sharma, R.N. (2003). *Statistical techniques in educational research.* New Delhi: Surjeet Publications.
10. Sidhu, Kulbir Singh. (2010). *Statistics in education and psychology*. New Delhi: Sterling Publishers.

CURRICULUM STUDIES

L	T	P	C
2	2	2	4

Preamble:

Curriculum Studies is a concentration within curriculum and instruction concerned with understanding curricula as an active force of human educational experience. One of the vital roles of teachers is to facilitate and refine the knowledge of students by using the curriculum as a tool. This course imparts necessary preparation of the learners to know the basic concepts and process of curriculum. It also helps to get acquaintance on various approaches and models of curriculum development.

Expected Outcomes:

After completing the course, the student will be able to -
- acquire knowledge and get insight into curriculum perspectives;
- understand the concept of curriculum and characteristics of a good curriculum;
- gain experience in constructive and critical analysis of text book;
- get insight into the guiding principles and recommendations of NCF 2005 and NCFTE 2009;
- develop the capability to play the role of curriculum designer, reviewer, implementer and assessor; and
- evaluate the total curricular experiences.

Unit I – Perspectives of Curriculum

Concept and Principles of Curriculum - Characteristics of a good curriculum- Strategies of Curriculum Development - Stages in the Process of Curriculum development - Foundations of Curriculum Planning - Philosophical Bases: national, democratic, sociological basis, Psychological Bases: Learners' needs and interests, Bench marking and Role of National level Statutory Bodies - UGC, NCTE and University in Curriculum Development

Unit II– Approaches to Curriculum Development

Instructional System - Instructional Media - Instructional Techniques and Material in enhancing curriculum Transaction - Approaches to Evaluation of Curriculum - Approaches to Curriculum and Instruction: academic and competency based approaches - Subject centred: core curriculum, learner centred, community centred

Unit III – Models of Curriculum

Models of Curriculum Design: Traditional and Contemporary Models - Academic / Discipline Based Model - Competency Based Model - Social Functions / Activities Model, Individual Needs & Interests Model, Outcome Based Integrative Model , Intervention Model, C I P P Model (Context, Input, Process, Product Model) - Models of Curriculum Evaluation: Tyler's Model, Stakes' Model, Scriven's Model, Kirkpatrick's Model

Unit IV – Curriculum Reforms and Develpment

Curriculum change: meaning and types - Factors affecting curriculum change - Approaches to curriculum reforms - Role of students, teachers and educational administrators in curriculum reforms and improvement - Scope of curriculum research - Types of Research in Curriculum Studies

Unit V – Textbook Review and Content Analysis

Textbook Review: Meaning, Need, Uses - Qualities of a good text book - Content analysis: Meaning, Need and significance – conceptual accuracy, learners' perception of content - Curriculum vs Syllabus – Source book vs Textbook

References:

1. Aggarwal, Deepak. (2007). *Curriculum development: Concept, methods and techniques.* New Delhi: Book Encla.
2. Boyle, Bill & Marie, Charles (2016). *Curriculum development: A guide to educators.* Thousand Oaks, CF: SAGE Publications.
3. Kridel, Craig (Ed.). (2010). *Encyclopedia of curriculum.* New Delhi: Sage Publications.
4. Madhulika, Sharma. (2013). *Education management, curriculum development and teaching techniques.* New Delhi: Kanishka Publishers.
5. McKernan, James. (2007). *Curriculum and imagination: Process, theory, pedagogy and action research.* UK: Routledge.
6. NCERT (2009). *National Curriculum Framework – 2005.* New Delhi: NCERT.
7. O'hara,M. (2004*). Meeting the standard for initial teacher training and induction*. London: Continuum.
8. Prasad, Janardan & Kaushik, Vijay Kumari. (2013). *Advanced curriculum construction.* New Delhi: Kanishka Publishers.
9. Roland, C. Faunce& Nelson, L. Bossing. (1967). *Developing the core curriculum (2nd ed.).* New Delhi: *Prentice* Hall of India.
10. Taba, H. (1962). *Curriculum development*: *Theory and practice*. NY: Harcourt Brace.
11. Wheeler, D. (1967). *Curriculum process*. London: University of London press.

EDUCATIONAL POLICY, PLANNING AND FINANCING

	L	T	P	C
	4	**0**	**0**	**4**

Preamble:

Planned development of skills must be strengthened by a "policy", which is both comprehensive as well as national in character. Educational Planning in India is one of the vital areas of concern in all the Five year Plans in India. With the onset of globalization and modernization in recent times, education at all levels is very necessary if India is to surpass other nations. Its purpose is to guide the skill development strategies and coordinated action by all stake holders. It is also important to refresh the knowledge of educational policies in the economic, employment and social development arenas.

Expected Outcomes:

After completing the course, the student will be able to –
- acquire knowledge on the various educational policies recommended to promote education in the Country during pre and post independent period;
- understand the principles and theories in governance and planning of educational organizations;
- sensitize the learners the importance of leadership in the accomplishment of educational goals and objectives;
- gets insight on educational planning, its areas and various recommendations put forth by the Five year plans of the country;
- acquire the importance of supervision, financing and budgeting to ensure managerial effectiveness; and
- refresh the knowledge in the field of economic development.

Unit I - Educational Policy before Independence

Policies of Education – Macaulay's Minute on Education (1835), Woods Despatch (1854), Indian University Commission (1902), Calcutta University Commission (1917- 1919), Hartog Committee (1928-29), Zakir Hussain Committee (1938), Sargent Report (1944)

Unit II - Educational Policy after Independence

University Education Commission (1948 -49), Secondary Education Commission (1952 - 53), Education Commission (1964 - 66), National Policy of Education (1968), Committee

on governance of Universities and Colleges (1969 -73), Development of Higher Education in India: A policy framework (1978), National Commission on Teachers I (1983 – 85), National Commission on Teachers II (1983 -85), National Policy on Education (1986), Programme of Action (1986), Women Education Commission, National Knowledge Commission (2005)

Unit III - Educational Planning

Introduction to Educational Planning – Meaning, need and importance, areas of planning, salient features, principles of educational planning, techniques of planning, execution and evaluation of planning. First exercise of Educational Plan (1938 – 44), Education in Five Year Plans

Unit IV - Financing in Education

Definition, meaning and principles of educational finance, Educational finance at Macro and Micro levels. Budgeting – Steps in budget preparation, fund allocations and expenditure, fund raising, accounting and auditing, Financial accountability Systems, Educational Loans and Taxes

Unit V - Economic Development in Education

Development of country's economy, Social Relevance, Human resource development. Financial resource: Procurement, utilization and maintenance of resources, Allocation of resources – economic and social bases for allocation of resources in educations. Cost benefit analysis and cost management

References:

1. Becker, G. W. (1964). *Human capital*. Princeton: Princeton University Press.
2. Bell & Bell. (2006). *Education, policy and social class.* Routledge.
3. Blaug, Mark. (1970). *Economics of education*. London: Penguin.
4. Bowman, M. J. Ctral, (Eds). (1968). *Readings in the economic of education*. Paris: UNESCO.
5. Cohn, E. (1972). *Economics of education*. Lexington Mass – D.C. Health Company.
6. Harbison, F. H. & Myres, C. A. (1964). *Education, man power and economic growth.* Maidenhead: McGraw-Hall.
7. Jandhya, B. G. Tilak. (1985). *Economics of inequality in education*. New Delhi: Sage Publications.
8. Mukhopadadyay, Mamar & Tyagi, R. S. (2005). *Governance of school education in India.* New Delhi: NIEPA.

9. Pandit, H. S. (Ed). (1969). *Measurement of cost productivity and efficiency of education*. New Delhi: NCERT.
10. Perlman, Richard. (1973).*The economics of education*: *Conceptual problems and policy issues*. NY: McGraw Hill Book Company.
11. Reddy, Shiva, B. (2000). *Education and rural development in India.* Paris: UNESCO: International Institute of Educational Planning.
12. Sacharopoulos, George, P., & Woodhall, M. (1985). *Education for development*. NY: Columbia University Press.

EDUCATIONAL EVALUATION

	L	T	P	C
	1	3	3	4

Preamble:

Evaluation is an indispensable component of the educational process, which helps teachers and learners to improve teaching and learning. When it is a continuous process rather than periodic process, its purpose will be realized effectively. It helps in forming the values of judgment, educational status, and achievements in students. It is desirable that future teachers must acquire knowledge and understanding about the various aspects of evaluation in classrooms. It provides students with the need, importance, concepts and characteristics of educational evaluation.

Expected Outcomes:

After completing the course, the student will be able to -
- understand the difference between measurement and evaluation;
- gets insight on evaluation procedure based on Blooms taxonomy of educational objectives;
- know the need for evaluating the internship, ICT resources, like programmes ;
- apply the various assessment techniques in day-to-day practice of teaching; and
- have alignment with the recent trends of evaluation.

Unit I - Status of Evaluation

Educational evaluation in teaching learning process - Elements and types of evaluation - Difference among measurement, evaluation, assessment, testing, appraisal and examination - Tests and examinations - Examination reforms - Norm-referenced testing & Criterion-referenced testing - Formative and Summative Tests – Indicators of formative assessment - Cognitive and Non-cognitive assessment of learning outcomes - Internal examination versus External examinations.

Unit II - Procedure of Evaluation

Bloom's taxonomy – Revised taxonomy of objectives 2001 – Oral test and Written test - Different forms of test items – Framing test items and question papers - Selection type or fixed response type questions – Essay type and objective type items compared – Diagnostic, Prognostic and Achievement test - Preparation of a Blue print - Preparing a good question paper - Characteristics of a good test

Unit III - Assessment in Pedagogy of Education

Assessment: Meaning, nature, perspectives, types – Relationship between objectives and outcomes of assessment - Feedback Devices: Meaning, types, criteria, guidance as a feedback devices - Assessment of portfolios - Reflective journal - Field engagement using rubrics - Competency Based Evaluation - Assessment of teacher prepared ICT Resources – Evaluation of internship programmes. Assessment of teaching proficiency: criterion, tools and techniques.

Unit IV – Assessment Techniques

Assessment in Andragogy of Education - Interaction Analysis: Flanders' Interaction analysis, Galloway's system of interaction analysis (Recording of Classroom Events, Construction and Interpretation of Interaction Matrix), Criteria for teacher evaluation (Product, Process and Presage criteria, Evaluation in Choice Based Credit System in Higher education - Anecdotal records, question bank, grading

Unit V - Current Trends in Evaluation

Computer based testing - Electronic delivery of objective tests – Alternative assessment – Rubrics for Self and Peer evaluation (Meaning, steps of construction) - Assessment as an aspect of learning - Continuous and Comprehensive Evaluation – Progress report and Cumulative record - Open book examination - Innovations in evaluation systems

References:

1. Aggarwal, J.C. (2005). *Essentials of examination system.* New Delhi: Vikas Publishing House.
2. Drummond, M.J. (1993). *Assessing children's learning*. London: David Fulton.
3. Ebel, Robert L. & Fribie, David. A. (1991). *Essentials of educational achievement.* New Delhi: Prentice-Hall of Hall.
4. Freeman, Richard & Lewis, Roger. (1998). *Planning and implementing assessment.* London: Kogan Page.
5. Frey.B (2014). *Modern classroom assessment*. California: Sage Publication.
6. GOI. (1991). *Minimum levels of learning at primary stage.* New Delhi: MHRD.
7. Gronlund, N.E. (1990). *Measurement and evaluation in teaching (6th ed.).* NY: The MacMillan.
8. NCERT (1985). *Contemporary issues in public examination.* New Delhi: NCERT.
9. NCERT (1985). *Handbook of continuous and comprehensive evaluation.* New Delhi: NCERT.
10. Shah, Beena (Ed.). (1988). *Revamping the examination system.* New Delhi: Northern Book Cent.

11. Singh, Pritam. (2003). *Dynamics of a question*. New Delhi: Doaba House.
12. www.learningoutcomeassessment.org

MINI PROJECT

APPLICATIONS OF EDUCATIONAL PSYCHOLOGY

L T P C
4 1 1 4

Preamble:

Educational psychology   is the branch of psychology that deals with the scientific study of   human learning. The study   of learning processes,   from both cognitive and behavioral perspectives. It   allows researchers to understand individual   differences   in intelligence, cognitive development, motivation,   self-regulation, and self-concept, as well as their role in learning. It is necessary for a teacher to understand the human behaviour because they deal with the humans (students) most of the time. This course highlights the essential perspectives of educational psychology. The main focus of this course is on enabling the learner to develop an understanding about intelligence, models of teaching, learning and personality. The concepts on introduction to psychology as a scientific study are also revealed through this course.

Expected Outcomes:

After completing the course, the student will be able to -
- understand the different psychological explanations of learning;
- understand the process of knowledge acquisition and knowledge construction;
- develop skills to transact curriculum employing different models of teaching;
- understand the aspects of individual differences and implications for teaching learning; and
- align learning styles and teaching strategies.

Unit I - General Perspectives of Psychology

Educational Psychology: Meaning, Definition and Principles - Schools of psychology: structuralism, functionalism, behaviourism, constructivism, Gestalt, cognitive psychology - Growth and Development: Concept and Principles – Cognitive processes and stages of cognitive development - Characteristics of adolescent and adult learners (Academic, Social, Emotional and Cognitive) - Personality: Meaning, Definitions – Theories of personality: Freud, Carl Rogers, Gordon Allport, Max Wertheimer, Kurt Koffka- Individual differences

Unit II- Intelligence

Approaches to Intelligence from Unitary to Multiple - Concepts of Social intelligence, multiple intelligence, emotional intelligence, Theories of Intelligence by Sternberg, Gardner, Testing and Assessment of Intelligence - Concepts of Problem Solving - Critical thinking - Metacognition and Creativity

Unit III - Learning

Principles of learning - Theories of learning: Behaviouristic, Cognitive and Social theories of learning - Factors affecting social learning, social competence, Concept of social cognition, understanding social relationship and socialization goals - Assessment of Cognitive (Anderson and Krathwohl), Affective (Krathwohl) and psychomotor domains (R.H. Dave) of learning

Unit IV – Pedagogy & Andragogy of Teaching

Pedagogy, Pedagogical Analysis - Concept and Stages, Critical Pedagogy-Meaning, Need and its implications in Teacher Education - Organizing Teaching: Memory Level (Herbartian Model), Understanding Level (Morrison teaching Model), Reflective Level (Bigge and Hunt teaching Model) - Concept of Andragogy in Education: Meaning, Principles, Competencies of Self-directed Learning - Theory of Andragogy (Malcolm Knowles) - The Dynamic Model of Learner Autonomy - Models of Teaching: Suchman's Inquiry Training Model – Ausubel's Advance Organiser model -Bruner's Concept Attainment Model – Jurisprudential Inquiry Model – Piaget's Cognitive Model

UNIT V Guidance and Counselling

Guidance and Counselling: Meaning, nature, principles, difference and need - Types of Guidance: Educational, vocational, personal, health and social & Directive, Non-directive and Eclectic - Approaches to counselling – Cognitive - Behavioural (Albert Ellis – REBT) & Humanistic, Person-centred Counselling (Carl Rogers) - Theories of Counselling: Behaviouristic, Rational, Emotive and Reality-Stress management-Mental health and Mental hygiene

References:

1. Butcher, M. J. (1993). *Human intelligence: Its nature and assessment*. London: Mertuen.
2. Coronback, L. J. (1990). *Essentials of psychology*. NY: Harper and Row.
3. Dhandapani, S. (2016).*General Psychology*. Hyderabad: Neelkamal Publications.

4. Dharma Raja, B. William (Ed.). (2014). *Cognitive science initiative in education.* Tirunelveli: Manonmaniam Sundarnar University.
5. Gardner, H. (1993). *Multiple intelligence.* NY: Basic Books.
6. Goleman, D. (2000). *Working with emotional intelligence*. NY: Bantam Books.
7. Kochhar, S. K. (2010). *Guidance and counselling in colleges and universities,* New Delhi: Sterling Publishers.
8. Mitchell, M. & Gibson, R. L. (2015). *Introduction to Counseling and Guidance (7th ed).* New Delhi: Pearson Publishers.
9. Sandrock, John, W. (2006). *Educational psychology* (2nd ed.). New Delhi: Tata McGraw Hill Publishing Company.
10. Stemberg, Robert, J. (2006). *Cognitive psychology* (4thed.). USA: Vicki Kuight Publisers.
11. Woolfolk, A. & Shivani, V. (2017). *Educational Psychology, (13thed)*. Pearson Education Publisers.
12. Zimbardo, Philip, G. & Gerrig, Richard, J. (1999). *Psychology and life* (15thed.). NY: Longman.

PROSPECTS OF ELEMENTARY EDUCATION

	L	T	P	C
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Preamble:

This course presents the overview of the elementary education at the national and global levels. It is aimed at describing the historical progression of elementary education to help the teachers understand the nature and development of elementary education in a holistic way. This has been designed based on the needs of the society and varied life experiences to facilitate fair understanding of elementary education in the contemporary Indian society.

Expected Outcomes:

After completing the course, the student will be able to -

- acquire knowledge about the context of elementary education;
- understand the concept, objectives, challenges and extent of success of UEE;
- comprehend the underlying principles of curriculum development and evaluation at elementary stage;
- acquaint research insight for curriculum development in elementary education; and
- analyse the status of elementary teachers, the problems and issues related to professional growth.

Unit I - Context of Elementary Education

Developmental characteristics and norms-physical, cognitive process and abilities; language development; socio-emotional development during early and late childhood - Learner/learning centered approach, activity centered approach, freedom and discipline; reflection on present practices

Unit II – Provisions in Elementary Education

Nature of Elementary Education after independence - Educational thought of Gandhi and Tagore to elementary education - Constitutional provision for education and Directive Principles related to elementary education - Provision in RTE Act and related issues - Elementary education in NPE (1986), POA (1992), NCF (2005)

Unit III - Issues and Challenges of Upper Elementary Education

Concept, objectives, meaning and justification of UEE - Current status of UEE (access enrolment, and retention) with reference to the equity principles: differential across habitation, gender, caste and other socially disadvantaged groups - Access and enrolment of different types of learners - issues and challenges - Enrolment and dropout: meaning and assessment and related issues and dropout - Achievement levels of different types of learners - status and issues

Unit IV- Programmes in Elementary Education

Panchayatraj and community involvement in educational planning and management related issues - Participation of NGOs in achieving goals of UEE - ECCE programme - District primary education programme: goals and strategies - SSA: goals and specific programme interventions namely access, enrolment, retention/participation and achievement - Monitoring, research and evaluation of schemes viz., mid-day meals, VEC and incentive schemes and achievement levels

Unit V- Curriculum in Elementary Education

Elementary School Curriculum: Principles - Curriculum , Objectives, Planning, Organisation and Evaluation of for Work Experience, Art Education, Health & Physical Education, Language(s), Mathematics, Environmental Studies/ Social sciences and Natural Sciences in Elementary Education

References:
1. Celin, R. (1984).The *study of primary education and resource book. Vol. I.*
2. Erickson, H.L. (2002). *Concept-based curriculum and instruction*. California: Crown Press.
3. GOI. (1986). *National policy on education.* New Delhi: MHRD.
4. GOI. (1987). *Programme of action*. New Delhi: MHRD.
5. Hayes, Denis. (2008). *Primary teaching today: An introduction*. U.K: Routledge Publications.
6. Hurlock, E. (1995). *Child development*. USA: McGraw Hill Book Company.
7. Kurrian, J. (1993). *Elementary education in India*. New Delhi: Concept Publication.
8. MHRD (2001). *Convention on the Right of the child*. New Delhi: MHRD.
9. NCERT (1998). *National Curriculum for Elementary and Secondary Education - A Framework*. New Delhi: NCERT.
10. NCERT (2005). National Curriculum Framework. New Delhi: NCERT.

11. Rao, V.K. (2007). *Universatisation of elementary education*. New Delhi: Indian Publishers.
12. UNESCO (2006). Teachers and educational quality: Monitoring global needs for 2015. Montreal: UNESCO Publication.

PROSPECTS OF SECONDARY EDUCATION

	L	T	P	C
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Preamble:

Secondary and higher secondary education is increasingly becoming an area of focus in developing countries, which have thus far concentrated on achieving universal elementary education. This policy note on secondary education in India discusses issues and aspects critical for the development of this subsector. Secondary education, in terms of policy, is a concurrent item in that it is within the purview of both State and Central governments. State level implications and strategies for developing this sub-sector are critical.

Expected Outcomes:

After completing the course, the student will be able to -

- understand the nature-scope and systems of secondary and senior secondary education;
- examine the status of development of secondary and senior secondary education in India after independence;
- explore the problem and challenges related to secondary and senior secondary education;
- understand the interventions to solve the problems and issues related to alternative schooling at secondary and higher secondary levels;
- identify critical issues related to universalization of secondary education; and
- know about the innovations at secondary and higher secondary levels of education.

Unit I - Secondary Education

General Aims and Objectives of Secondary Education, Education during Post Independence Period. Constitutional provisions for education, Secondary Education Commission 1952-53, Education Commission 1964-66, New Education Policy 1986 with Programme of Action, 1992

Unit II - Secondary and Higher Secondary School Curriculum

Principles of school curriculum development at secondary and higher secondary level and text book development in secondary and higher secondary education - Approaches to career guidance, Vocationalisation of education and career development - Ginzberg's theory about guidance, Holland's theory of vocational choice

Unit III - Problems and Challenges of Secondary Education

Problems and challenges related to universalisation of secondary education - Alternative schooling at secondary stage - Problems / challenges / to access enrolment, dropout, achievement- equality of educational opportunities - Problems of education for girls, disadvantaged and differently abled children - Classroom problems: discipline, underachievement, lack of motivation, slow learners, delinquency and maladjustment - Issues of quality in secondary and higher secondary education

Unit IV – Research Trends in Secondary and Higher Secondary Education

Purpose - scope - trends of research in secondary and higher secondary education, innovative practices at secondary and higher secondary levels – simulated social skill training, independent study and role playing

Unit V - Monitoring for Quality Improvement in Schools

Monitoring – meaning, objectives and significance - Monitoring mechanism at different levels of schooling – Alumni association - Secondary Education Management Information System (SEMIS) - Structure of MIS School mapping at secondary level - Course mapping at senior secondary level

References:

1. Ahuja. A, Jangira, N.K. (2002). *Effective teacher training: cooperative learning based approach.* New Delhi: National Publishing House.
2. Bhatnagar, R. P. *Technology of teaching.* Meerut: International Publishing House.
3. Burkes, H.M. & Steffir, B. (1979). *Theories of counseling* (3rd Ed.). NY: McGraw Hill.
4. Jangira, N.K. & Mani, M.N. (1990). *Integrated education for visually handicapped.* Gurgaon: Old Subjimandi Academic Press.
5. Jha, M. (2002). *Inclusive education for all: schools without walls.* Chennai: Heinemann Educational Publishers.
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ORGANISATION AND ADMINISTRATION OF TEACHER EDUCATION

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Preamble:

Teachers are the builders of a nation. This paper enables the students to acquire necessary skills for planning and organizing classroom management. The student will be able to gain insight and reflect values and status of teaching as a profession, understand the roles and responsibilities of teachers and teacher educators. They will be able to examine critically the issues, problems and concerns of teacher education.

Expected Outcomes:

After completing the course, the student will be able to –
- recognize the concept of teacher education, its objectives, scope and functions;
- acquire knowledge about the various types of teacher education institutions across the country;
- develop an awareness of the problems in teacher development;
- acquaint with the responsibilities pertaining to the organization of pre-service and in-service teacher education;
- develop competency necessary for effective professionalism; and
- recognize the various research programmes and the prominent areas of research in teacher education.

Unit I - Pre-service Teacher Education

Teaching: Concept, objectives, characteristics and basic requirements – Teacher centred vs Learner centred methods - Teacher Education: Meaning, nature, scope - Types of Teacher Education Programmes - Structure of Teacher Education - Curriculum and its vision in curriculum documents of NCERT and NCTE at Elementary, Secondary and Higher Secondary levels - Organization and components of Pre-service Teacher Education - Transactional approaches (for foundation courses): Expository, Collaborative and Experiential learning

Unit II – Models of Teacher Education

Knowledge base of Teacher Education: Schulman, Deng and Luke & Habermas - Reflective Teaching: Meaning and Strategies - Models of Teacher Education: Behaviouristic, Competency-based and Inquiry Oriented

Unit III – In-service Teacher Education

In-service Teacher Education: Concept, need, purpose, scope, organization and modes - Agencies and Institutions of In-service Teacher Education: District, State and National Levels (SSA, RMSA, SCERT, NCERT, NCTE and UGC) - Planning in-service teacher education programme: Purpose, duration, resources and budget

Unit IV – Professionalism

Concept of Profession and Professionalism - Teaching as a Profession - Professional Ethics of Teachers - Professional, Technical and Skill Based education - Personal and Contextual factors affecting Teacher Development - ICT Integration - Quality Enhancement for Professionalization of Teacher Education - Teaching Support System: Traditional, Modern and ICT based.

Unit V - Research in Teacher Education

Research Programmes: Action Research, Experimental Projects and Major & Minor Research Projects. Funding Agencies for Researches in Teacher Education: NCTE, NCERT, UGC, DTERT, etc. Survey of Educational Researches conducted in India and Abroad. Role played by University Departments in Researches related to Teacher Education

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PERSPECTIVES, ISSUES AND RESEARCH IN TEACHER EDUCATION

(e-PG Pathshala)

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Preamble:

By the end of the course, the student will be able to gain insight and reflect on the concept of teaching and the status of teaching as a profession, understand the roles and responsibilities of teachers and teacher educators. They will be able to examine critically the growth and development of teacher education in the country along with the various techniques for the evaluation of in-service teacher education programmes reflecting the issues, concerns and problems of in-service teacher education and thereby provide solutions for the problems. They will equip themselves to be effective nation builders with self-confidence, inquisitiveness, faithfulness, dutiful, humble, and good role models to the students in future.

Objectives

After completing this course the students will be able to:

- understand the concept and significance of teacher education programme, e-teacher education and e-learning;
- know the functions of pre-service and in-service teacher education programme and also the strength and achievement of prevailing education system in India;
- acquires knowledge on historical development of teacher education in India during various periods;
- gets insight on teaching methods followed in India;
- highlight the various issues faced by teachers and teacher education in India and recognize the ways to overcome the issues;
- provide information regarding human resource planning and also recognises the pioneer competencies of India; and
- understand the present teaching scenario in schools and also does a reality check on teachers and teacher education today.

Unit I – Scope of Teacher Education Programmes in India

Introduction – Pre service Teacher Education Programme: Objectives, Functions, Curriculum – In service Teacher Education : Nature, Objectives, Scope and Context – Modes of Teacher Education – Face to face, Open and Distance Education, e- teacher education: Concepts and features, Technology : a vehicle for development of classroom

instruction, issues in implementing e- learning in teacher education, advantages and disadvantages – Stage specific teacher education - Teacher Education for all levels

Unit II – Scenario of Teacher Education in Ancient, Medieval, Modern and Contemporary India

Teacher Education in Vedic, Buddhist, Medieval, pre-independent India and post-independent periods – Development of understanding about HRD – Identity Crisis of Education – NCFTE (2009-PREFACE) –Achievement of NCFTE (2009) and NCF (2005) – Challenges and Reality – Quality concerns of Teacher Education – Total Teacher Education courses recognized and intake approved

Unit III – Innovations, Issues and Concerns of Teacher Education

Innovative practices - Need of innovative practices in teacher education – Innovations in Secondary Teacher Education programme – Deployment of innovation – Issues faced by teacher education in India: Institutional inertia and brand inequity – Quality of teacher education institutions –Mushrooming of teacher education institutions

Unit IV – Research of Teacher Education & School Education Symbiosis

Identity of Education in India – Journey of NCFTE (2009) & NCF (2005) –Research and innovation – Need for taxonomy of educational skills – Renewal of the courses in education – Problems of research – Researching pioneer competencies in India: Meaning of pioneer, pioneer competencies, Attributes of Nobel Laureates of India – Problems addressed by the pioneers and developing pioneer culture

Unit V – Teachers Today: A Reality Check

Science education for Wholistic development of Teachers: Developing humane and Professional teachers, Wholistic Education and Approach, Illustration on Tea Preparation, properties of materials and ingredients, chemical composition of various ingredients used in preparation of Tea, Health benefits of black pepper, Nutritional profile for basil, Health benefit of black paper – Teacher in the Digital Age, Issues and Concerns – Integration of ICT aided Constructivist learning approach: Issues and Concerns – Good teacher - NCFTE (2009) and NCF (2005) – Challenges and reality – Human resource planning – Scenario of school teaching – Students' perception of teacher
– Teacher today

ANDRAGOGY OF EDUCATION

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	2	2	2	4

Preamble:

This paper in adult education is designed to enhance the practice of adult education (Andragogy) through the provision of formal study in the theoretical foundations, methods, techniques and problem solving for the professional adult educator working in a variety of settings. The goal is to equip students with appropriate knowledge and skills for the performance of roles as teacher, facilitator, program planner, administrator and advocate. It is designed to acquire new skills or to build on their current knowledge base regarding adult learning and to develop skills and knowledge in organizing, conducting, evaluating or administering programs for adult learners.

Expected Outcomes:

After completing the course, the student will be able to -

- know the historical significance of adult education;
- learn about prominent theories of adult education;
- engage students in learning about how adults learn;
- design, deliver and evaluate adult educational programs; and
- explore the recent trends in adult education.

Unit I - Concepts and Terminologies

Andragogy and pedagogy - Illiteracy and its types – Literacy and its types - Understanding Diversity in Adult Education – Historical perspective of Andragogy: From Past to Present - Adult Learning: From Theory to Practice – Andragogical Process Model for Learning - Center model versus the each-one, teach-one model Commissions, Farmers' functional literacy, Gram Shikshan Mohim in Maharashtra, National Adult Education Program, Mass Program for Functional Literacy, - Needs Assessment Strategy
- Use of new information technologies: multimedia packages, computer aided learning, websites on adult education, data base creation for adult education - Participatory communication methods

Unit II - Foundations of Adult Education

Philosophical Foundations - Liberal, Behavioristic, Progressive, Humanistic and Radical approaches - Ideas of Rabindranath Tagore and Mahatma Gandhi - Conscientization approach: Ideas of Paulo Friere - Socialist Pedagogy - Psychological Foundations: Psychology of adults - Difference between the adult and the child as learners -

Characteristics of adult male and female learners and differences in their learning needs - Learning needs of adults in urban, rural and tribal settings - Learning needs of adults of different socio-economic strata - Motivational aspects of adult learning - Values in adult education: Challenges and issues of contemporary society

Unit III - Curriculum Methods, Techniques and Teaching Materials

Developing curricula - types of curriculum - Different teaching methods - Teaching and learning materials for adults - Teaching aids - conventional, non-conventional, modern - Socialization and popular education as learning tools/strategies - Techniques of Material Preparation for Adults - Identification of needs and interests of adult learners - Preparation of books for neo-literates -Processes and contents; field testing of materials - Publication and marketing of materials: Role of National Book Trust, SRC, NGOs, etc. - Development of materials - print and non-print other than books

Unit IV - Training and Field Organisation

Training: Functionaries in adult, continuing education and field outreach programs conducted by government agencies, NGOs and universities and their training needs - Identification of objectives, content, training method, implementation strategies and evaluation techniques - The participatory approach as a training technique - Management and organisation of a training program - Field Organisation: Strategies for entry into communities - Rapport building, survey, planning for macro- and micro-situations - Setting targets, organization, resource mobilization, budget and its management, conduct of field work and its monitoring - Evaluation - continuous, internal, external - Tools for evaluation - Remedial actions

Unit V - Current Trends in Adult Education

National Literacy Mission (NLM): Structure, role and function, operational network and supporting agencies and bodies - SRC, DIET, NIAE, Directorate of Adult Education - Total Literacy Campaigns (TLC) - Post- Literacy Campaigns (PLC) - Off shoots of TLC and PLC - Field skills, teaching methods for adults, training m ethods for training of functionaries - Monitoring and evaluation of TLC, PLC and other programs of the NLM - Role of NGOs, Universities and other Government agencies in support of the NLM - UNESCO's efforts : Education for All Declarations, Hamburg Declaration - Mumbai Statement, World Declaration on Higher Education - Cape Town Statement - Policies, projects and conferences - Current Trends in Asian, African and European countries

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ANTIQUITY, POLITICS AND ECONOMICS OF EDUCATION

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Preamble:

This course is designed to provide historical background of education which is a foundation for a professional teacher. Appreciation of the strengths and weaknesses of previous endeavors prepares the students to contribute for evolving education systems. Careful consideration of the relationship of education with politics and economics enhances national development and political socialization. The course also empowers the students as *educational* leaders or administrators, with profound knowledge over the theories for careful *financial management* within the system. The knowledge base of history of education along with its progress till date, politics and economic perspectives based on theories craft an adept teacher community.

Expected Outcomes:

After completing the course, the student will be able to -
- gain an overview of education in ancient India and post independent era;
- understand the important contributions of Committees and Commissions for teacher education;
- apprehend the economic and political perspective of education; and
- realise the linkage among educational policy, political socialization and national development.

Unit I –History of Education in Pre-independent India

Education in Ancient India : Introduction - Types of Institution : Gurukul, Parishads, Sangam , Ashramas, Vidyapeeta, Agraharas and Viharas - Famous Educational Institutions : Takshasila, Nalanda University, Vallabhi, Vikramasila, Odantapuri and Ujjain - British Raj Higher Education : Charter Act, Macaulay's Educational Policy, Woods Despatch, Hunter Commission, Indian Universities Act, Sadler University Commission, Wardha Scheme of Basic Education, Sargeant Plan of Education

Unit II - Committees and Commissions' Contribution to Teacher Education Post–independent India

Secondary Education Commission (1953), Kothari Education Commission (1964-66), National Policy of Education (1986,1992), National Commission on Teachers (1999), National Curriculum Framework 2005, National Knowledge Commission (2007),
Yashpal Committee Report (2009), National Curriculum Framework for Teacher Education (2009), Justice Verma Committee Report (2012), New Education Policy (2016)

Unit III - Policies and Education

Relationship between Policies and Education, Linkage between Educational Policy and National Development, Determinants of Educational Policy and Process of Policy formulation: Analysis of the existing situation, generation of policy options, evaluation of policy options, making the policy decision, planning of policy implementation, policy impact assessment and subsequent policy cycles

Unit IV - Economics of Education

Concept of Economics of Education: Cost Benefit Analysis Vs Cost Effective Analysis in Education, Economic returns to Higher Education Signaling Theory Vs Human Capital Theory, Concept of Educational Finance; Educational finance at Micro and Macro Levels, Concept of Budgeting

Unit V - Politics and Education

Relationship Between Politics and Education, Perspectives of Politics of Education Liberal, Conservative and Critical, Approaches to understanding Politics (Behaviouralism, Theory of Systems Analysis and Theory of Rational Choice), Education for Political Development and Political Socialization

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TECHNOLOGY BLENDED EDUCATION

L T P C

4 0 0 4

Preamble:

Technology blended Education aims at preparing the students to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. To catalyse, support and sustain teaching learning process effectively, the emerging trends in technology is integrated in the teaching learning activities. Digital initiatives build upon the synergies in higher education by adopting a holistic approach to create a conducive environment of collaboration, cooperation and sharing the creation of a demand for optimal utilisation of the resources in education.

Expected Outcomes:

After completing the course, the student will be able to -

- appreciate the role of technology in teaching learning;
- grow in the usage of multimedia and web content for teaching learning;
- use word processing, databases, spreadsheets, and graphics to illustrate presentations;
- demonstrate competency in using audio-visual equipment, methods, and technologies in teaching learning contexts;
- learn the emerging trends in technology and to integrate it in teaching process; and
- explore the various digital initiatives in higher education.

Unit I – Concept of Educational Technology

Educational Technology as a Discipline: Information Technology, Communication Technology & Information and Communication Technology (ICT) and Instructional Technology - Applications of Educational Technology in formal, non-formal (ODL), informal and inclusive education systems – Implications of Behaviourist, Cognitive and Constructivist Theories to Instructional Design: Skinner, Piaget, Ausubel, Bruner, Vygotsky - Relationship between Learning Theories and Instructional Strategies for large and small groups & formal and non-formal groups - Use of ICT in Evaluation - Administration and Research: e-portfolios, ICT for research - Online repositories - Online libraries, Online and Offline assessment tools: Online survey tools or test generators

Unit II – Instructional Design

Systems Approach to Instructional Design, Models of Development of Instructional Design: ADDIE, ASSURE, Dick and Carey Model Mason's - Gagne's Nine Events of

Instruction and Five E's of Constructivism - Nine Elements of Constructivist Instructional Design - Application of Computers in Education: CAI, CAL, CBT, CML - Process of preparing ODLM

Unit III – Emerging Trends in e-Learning

Concept of e learning, Approaches to e-learning: Offline, Online, Synchronous, Asynchronous, Blended learning, Mobile learning - Social learning: concept, use of web 2.0 and web 3.0 tools for learning - Social networking sites, blogs, chats, video conferencing, discussion forum - Open Education Resources - Concept of e-Inclusion - Application of Assistive technology in e-learning - Quality of e-learning – Measuring quality of system: Information, System, Service, User Satisfaction and Net Benefits - D&M IS Success Model, 2003 - Ethical issues for e-learner and e-teacher

Unit IV – Web Based Learning & Hypertext Markup Language

Internet and the WWW: Information, services and functions of the internet and web - Keywords and search strategies; e-mail, chat, news groups and forums, web blogs - cloud computing. Script writing html-part of the HTML script – defining header and body sections-formatting statements – listing statements – creating menus - Creating link between files, inserting pictures and images

Unit V - Digital Initiatives in Higher Education

SWAYAM – MOOCs - SWAYAM PRABHA - e-shodhsindhu - NDL - NPTEL - NMEICT - e-Governance - NAD - Virtual Labs - e-Yantra - e-Achariya - e-Kalpa – FOSSEE - e-Vidhwan - Spoken Tutorial - Central Cloud Infrastructure - IIC - SAP – UAY - IMPRINT – GIAN

References:

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INCLUSIVE EDUCATION

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Preamble:

Inclusive education systems remove the barriers, eliminates all forms of discrimination and respect diverse needs, abilities and characteristics of every individual in the learning environment. Ensuring equal opportunity to have education is a human right. The identification and adaptation of the school curriculum in pace with the learners needs along with the partnership of parents , peers and professionals facilitates the realization of no one left behind policy in education. The teacher's sound knowledge and positive attitude for inclusion can serve the purpose effectively. This course facilitates the prospective teachers to include the excluded and marginalized groups and providing them with quality education and implement inclusive policies and programmes.

Expected Outcomes:

After completing the course, the student will be able to –
- gather a solid understanding of the evolution of the philosophy of inclusive education;
- gain knowledge about International and national legislations for education of diverse learners;
- identify the diverse learners and apply appropriate educational evaluation techniques;
- develop adaptive curriculum suitable for diverse learners;
- develop the skill to plan and manage inclusive classroom;
- analyze the issues of inclusive education in India; and
- stay alive with the research trends of inclusive education.

Unit I – Introduction to Inclusive Education

Inclusive Education: Concept, Principles, Scope and Target Groups (Diverse learners; Including Marginalized group and Learners with Disabilities), Evolution of the Philosophy of Inclusive Education: Special, Integrated and Inclusive Education

Unit II – Diverse Learners

Concept of Impairment, Disability and Handicap - Classification of Disabilities based on ICF Model, Readiness of School - Models of Inclusion, Prevalence, Types, Characteristics and Educational Needs of Diverse learners' Intellectual, Physical and Multiple

Disabilities - Causes and prevention of disabilities - Identification of Diverse Learners for Inclusion - Educational Evaluation Methods, Techniques and Tools

Unit III – Inclusive Classrooms

Planning and Management of Inclusive Classrooms: Infrastructure, Human Resource and Instructional Practices - Curriculum and Curricular Adaptations for Diverse Learners – ILP - Assistive and Adaptive Technology for Diverse learners: Product (Aids and Appliances) and Process (Individualized Education Plan, Remedial Teaching) - Parent-Professional Partnership: Role of Parents, Peers, Professionals, Teachers and School

Unit IV – Barriers and Facilitators

Barriers and Facilitators in Inclusive Education: Attitude, Social and Educational and Current Status - Ethical Issues of inclusive education in India - Research Trends of Inclusive Education in India

Unit V – Legal Provisions

Policies and Legislations (National Policy of Education (1986) - Programme of Action of Action (1992) - Persons with Disabilities Act (1995) - National Policy of Disabilities (2006) - National Curriculum Framework (2005), Concession and Facilities to Diverse Learners (Academic and Financial) - Rehabilitation Council of India Act (1992) - Inclusive Education under Sarva Shiksha Abhiyan (SSA) - Features of UNCRPD (United Nations Convention on the Rights of Persons with Disabilities) and its Implication

References:

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ENVIRONMENTAL EDUCATION

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Preamble:

Our environment has been indiscriminately exploited through loss of biodiversity, soil, weather and water pollution, population explosion, climate change, global warming, deforestation and scarcity of natural resources are the some of the consequences of our reckless deeds. The real development of any nation is progressing without damaging the environment. The Government is enacting several laws and implementing various policies and amendments to safeguard the nature. The objectives of environment education cannot be achieved without the involvement of the students at the grass root level. To make the citizens environment conscious, the supreme court of India has given direction to make all enrich environment orientation.

Expected Outcomes:

After completing the course, the student will be able to -
- understand facts and concepts concerning various aspects of the environment
- acquire the knowledge of various Environmental Issues;
- understand the relationship between Human Population and Environment;
- develop the positive attitude towards Environmental Education;
- understand environmental problems and their causes and remedies;
- develop a sense of responsibility and favorable attitude towards conservation of environment, biodiversity and sustainable development;
- understand the environmental Management; and
- imbibe values like love and respect for nature and its laws.

Unit I - Environment and Environmental Issues

Meaning, importance and scope of Environmental Education – Eco-system and its components. Environmental issues: Climate change – Global warming – Green House effect – Acid Rain – Ozone layer depletion and its effects – Urbanization – Deforestation – Soil erosion – Natural disasters. Pollution – various types. Role of individuals, community and government in planning, decision-making, legislation and social action for prevention of pollution

Unit II - Impact of Population on Environment

History of Human population growth – Human Population growth in India – Impact of population growth on eco-system, human settlements, land distribution. Population

Education: Need and Objectives – concept of sustainable development. Environment and Health Problem. Environmental stress – Effect of stressors on health and behaviour

Unit III - Biodiversity and its Conservation

Definition, Types, and Significance. Hot spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India – Conservation of biodiversity (In-situ and Ex-situ conservation) - National parks and Sanctuaries

Unit IV - Environmental Management and Organization

Definition and Need – Managing the natural resources – Renewable and non-renewable resources – Social forest – Water Management – Rainwater harvesting, Role of NGOs – Environmental protection acts. Disaster management- Environmental Conferences: Stockholm conference (1972), Rio Submit (1992), Kyoto Protocol (1997), Johennesberg conference (2002), Role of NCERT, CCE, DST in protecting environment

Unit V - Strategies for Environmental Conservation

Activities – Field trips, workshop, exhibitions, video shows, nature clubs, nature walk and celebration of environment day. Practical measures – saving energy, hygiene and sanitation programmes, eco-friendly behaviour, organic farming, 'Clean and green campus' programme

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