

Department of Technical and Vocational Education

Ph.D. Programme Curriculum for Entrance Test – Category – II

Part–A (Technical Vocational Education)

Introduction to Education System & Policies

Overview of Higher Education system in India, National Education Policy (NEP) 2020, National Curriculum Framework for Teacher Education (2009), Outcome-Based Education.

Technical and Vocational Education and Training (TVET)

Introduction to Vocational Education, Policy and Governance in Vocational Education, Status and issues of TVET Education in India, National Skills Qualifications Framework (NSQF), National Credit Framework (NCrF -2023) and Overview of Entrepreneurship Development. RPL (Recognized Prior Learning), Education Technology

Promoting Skill Development

Introduction to Skill Development, current trends, Vocational Programme- Need assessment and analysis, Skill Gaps and workforce demands, Models of skill developments, overview of skill development programs, Overview of Sector Skill Council (SSC), Technical and Vocational Program Implementation and Skill Assessment Methods, and National Skill Development Corporation (NSDC) in India and Models of Skill Development.

Part–B (Communication Skills)

Research and Writing

Overview of Research Writing; The Research Paper as a Form of Written Communication; Basic Principles of Communication; Types of Academic Writing: Essays, Reviews, Research Paper, Report, Term Paper, Review Article, Thesis, Dissertation, Comment Paper, Short Communication, Case Study, etc.; Interpretation of document/Research Paper, Types of Research Papers: Argumentative, Analytical, Definition, Compare and Contrast, Cause and Effect; Stages in Writing a Research Paper; Collecting Information: Preparing a working Bibliography; Critical Evaluation of the Sources and Note taking

The Style and Mechanics of Research Writing

Style: Diction, Tone, Voice, Economy, Sentence Structure, Tense, Active and Passive Voice, Intransitive Verbs; Parallelism; Logical Consistency and Coherence; Unbiased Language; Mechanics: Spelling, Punctuation, Abbreviation, Hyphenation, Italics, Capitalization, Numbers, Enumeration, Quotations

Part–C (Computer Applications, Engineering & Technology)

Word Processing

Word Processing: overview of word processor, basics of font type, size, colour, effects like bold, italics, underline, subscript and superscript, case changing options, previewing a document, saving a document, closing a document and exiting application.

Editing a Document: navigate through a document, scroll through text, insert and delete text, select text, undo and redo commands, use drag and drop to move text, copy, cut and paste, use the clipboard, clear formatting, format and align text, formatting paragraphs, line and paragraph spacing, using find and replace, setting line spacing, add bullet and numbers in lists, add borders and shading, document views, page settings and margins, spelling and grammatical checks, working with ad- ins, insert smart art.

Changing the Layout of a Document: adjust page margins, change page orientation, create headers and footers, set and change indentations, insert and clear tabs.

Inserting Elements to Word Documents: insert and delete a page break, insert page numbers, insert the date and time, insert special characters/symbols, equations, insert a picture from a file, resize and reposition a picture

Working with tables: insert a table, convert a table to text, navigate and select text in a table, resize table cells, align text in a table, format a table, insert and delete columns and rows, borders and shading, repeat table headings on subsequent pages, merge and split cells, insert a formula.

Working with Columned Layouts and Section Breaks: columns, section breaks, creating columns, newsletter style columns, changing part of a document layout or formatting, remove section break, add columns to remainder of a document, column widths, adjust column spacing, insert manual column breaks.

Basics of Internet

World Wide Web: introduction, internet, intranet, URL, web servers, basic settings of web browsers- history, extension, default page, default search engine, privacy and security, creating and retrieving bookmarks, use search engines effectively for searching the content. **Web Services:** cloud- software as service (SAS), Google Docs, Google Slides, Google Sheets, Google Forms

Engineering and Technology

Distributed power generation, micro grid, green energy, electrical machine and drives, power quality, power – electronics, energy storage, solar, wind, small hydro.

Digital filters, Applied Optimization, Robotics, Industrial Automation, Control Systems, Qualification Packs, Employability and Livelihood, Education Technology, RPL

Additive Manufacturing, Production and Industrial Engineering, Advance materials and manufacturing, Product Engineering and Design Thinking.