

Veer Narmad South Gujarat Univer5ity, Surat

Ph.D. Entrance Examination Syllabus

Faculty Of Science

Paper -I RESEARCH APTITUDE

Paper-I Units	Paper-I Topics
Unit-I: Research Aptitude	<ul style="list-style-type: none">• Research: Meaning, types, and characteristics, positivism and post-positivistic approach to research• Methods of research: Experimental, descriptive, historical, qualitative and quantitative methods• Steps of research• Research ethics
Unit-II:	<ul style="list-style-type: none">• Sources, acquisition and classification of data
Data Interpretation & Statistics	<ul style="list-style-type: none">• Quantitative and qualitative data• Graphical representation (bar-chart, histogiams, pie-chart, table-chart and line-chart) and mapping of data• Measures of central tendency and dispersal; probability distribution and normal)• Sampling distribution, difference between parametric and non-parametric statistics S;• Confidence Interval; Errors: Levels of significance, Regression and correction

<p>Unit-III: Mathematical and Logical Reasoning /Aptitude & Information and Communication Technology (ICT)</p>	<ul style="list-style-type: none"> • Types of reasoning • Number series, letter series, codes and relationships • Mathematical aptitude (fraction, time & distance, ratio, proportion and percentage, • Understanding the structure of arguments: Argument forms, structure of categorical propositions, mood and figure, formal and informal fallacies, uses of language, connotations and denotations of terms, classical square of opposition • Evaluating and distinguishing deductive and inductive reasoning • Venn diagram: Simple and multiple use for establishing validity of arguments • ICT: General abbreviations and terminology • Basics of Internet, Intranet, E-mail, Audio and Video-conferencing <p>Applications of ICT in research</p>
<p>Unit-IV: Fundamentals and applications of Computer &</p>	<ul style="list-style-type: none"> • Introduction to computer, Introduction to GUIbased Operating System • Elements of Word Processing and Spreadsheets • Computer communication, Internet, WWW and Web browsers • Innovation in research and development
<p>Innovation and IPR</p>	<ul style="list-style-type: none"> • Types of IP : Patents, Trademarks, Copyright & Related Rights, Industrial Design, • Types of Patents, Patent infringement-meaning ,scope, litigation

<p>Unit-V: People, Development and Environment</p>	<ul style="list-style-type: none"> • Development and environment: Millennium development and Sustainable development goals • Human and environment interaction: Anthropogenic activities and their impacts on environment • Environmental issues: air pollution, water pollution, soil pollution, noise pollution, • Natural and energy resources: Solar, Wind, Soil, Hydro, Geothermal, Biomass, Nuclear and Forests • Natural hazards and disasters: Mitigation strategies • Montreal Protocol, Convention on Biodiversity, Kyoto Protocol
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The list of important books recommended for preparation of Paper-I below:

Paper-I Books	Author
Trueman's UGC NET/SET General Paper I	M Gagan and Sajit Kumar
NTA UGC NET/SET/JRF Paper I: Teaching and Research Aptitude by Pearson	KVS Madaan
General Paper-1 UGC NET/JRF/SLET — Teaching & Research Aptitude	Arihant Experts
Upkar's UGC-NET/JRF/SET Teaching And Research Aptitude (General Paper - I)	Dr Lal Jain and Dr KC Vashistha
Environmental Studies	Erach Bharucha