**20MC3201– Advanced Aptitude and Reasoning Skills**

(Common to EEE, CSE, IT, AI&DS )

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| **Course Category:** | Mandatory Course | **Credits:** | 0 |
| **Course Type:** | Theory | **Lecture-Tutorial-Practical:** | 2-0-0 |
| **Pre-requisite:** | Basic Mathematical Skills | **Sessional Evaluation:****External Exam Evaluation:****Total Marks:** | 4060100 |

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| **Course Objectives:** | Students undergoing this course are expected to learn: |
| 1. Enhancing the problem solving skills.
2. Solving quantitative aptitude questions effortlessly using advanced strategies.
3. Advanced strategies of different counting techniques.
4. Better decision making concepts by proper analysation and representation of data.
5. Strengthening the basic programming skills for placements.
6. Enhancing critical thinking and innovative skills.
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| **Course Outcomes:** | After completing the course the student will be able to |
| **CO1** | Become proficient in Solving quantitative aptitude questions effortlessly. |
| **CO2** | Analyse different strategies of solving quantitative ability problems. |
| **CO3** | Demonstrate different counting techniques effectively. |
| **CO4** | Apply better decision making concepts by proper analysation and representation of data. |
| **CO5** | Acquire skills for preparing for interviews, presentations and higher education. |
| **CO6** | Enhance critical thinking and innovative skills.  |
| **Course Content:** | **UNIT-I****Quantitative Aptitude:** Logarithms, Arithmetic Progressions, Geometric Progressions, Mensuration: Areas & Volumes.**UNIT-II****Quantitative Ability:** Time and Work, Time Speed and Distance, Percentages, Profit and Loss, Averages and Ages.**UNIT-III****Permutation and Combination:** Fundamental Counting Principles, Permutations and Combinations, Computation of Linear and Circular Permutations-Advanced problems, Computation of Combination-Advanced problems.**UNIT-IV****Data Analysis and Interpretation:** Data Sufficiency, Data interpretation: Advanced Interpretation tables, pie charts & bar charts.**UNIT-V****Logical reasoning:** Logical Connectives, Syllogisms, Binary logic, Venn Diagram, Sequential output tracing, Crypto arithmetic. **UNIT-VI****Reasoning Ability:** Coding and Decoding, Input Type Diagrammatic Reasoning, Spatial Reasoning, Clocks and Calendar, Directions. |
| **Text books** **&****Reference books:** | **Text books:**1. “Quantitative Aptitude for Competitive Examinations”, by R S Aggarwal, S. Chand Publishing, Delhi, 3rd Edition, 2017.
2. “Aptipedia Aptitude Encyclopaedia”, by FACE, Wiley Publications, Delhi, 1st Edition, 2016.
3. “PlaceMentor”, by SMART,Oxford University Press, 1st Edition, 2018.

**Reference books:**1. “An Introduction to Critical Thinking”, by Daniel Flage, Pearson, London, 1stEdition, 2002.
2. “Aptimithra”, by ETHNUS, McGraw-Hill Education Pvt. Ltd, 1stEdition, 2013.
3. “A modern approach to non-verbal reasoning”, by Dr.Agarwal.R.S, S.Chand&Company Limited 2011
4. “How to Prepare for Quantitative Aptitude for CAT”, by Arun Sharma, McGraw Hill Education.
5. “How to Prepare for Logical Reasoning for CAT”, by Arun Sharma, McGraw Hill Education.
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