

Enclosure - VII

Offering Department: Mathematics Department
Part – III - SEC - II Co-Curricular Course
effective for the students admitted from 2016-2017 onwards

Offered in any semester –from II to V			
16UMACOC1	COC-I Quantitative Aptitude & logical reasoning for industrial placement	Total Duration 160hrs	1 Credit

Objectives:-

Upon completion of the course students will be able to

1. Understand the concepts of Quantitative Aptitude, mathematical logic and reasoning with emphasis on analytical ability and computational skill needed in for industrial placement.
2. Solve problems requiring Quantitative Aptitude & logical reasoning.
3. Perform well in competitive tests conducted for industrial placement.
4. Develop their Critical thinking skills, Professional skills, Social skills, Corporate specific approaches.
5. Become an accomplished employee.

UNIT I: COUNTING ABILITY

(32Hrs)

➤ **Vedic Mathematics**

- Number system
- Simplification
- Square roots & Cube roots
- Mathematical operation tactics
- Surds and Indices

➤ **Modern Mathematics**

- Probability
- Permutation and Combination
- Applied Permutation and Combination
- Set Theory
- Progression

UNIT II: ARITHMETICAL ABILITY

(38Hrs)

- Averages and Ages
- Ratio and Proportion
- Percentage
- Profits and Loss
- Interests
- Time, Work and Remuneration
- Pipes and Cistern

- Speed, Time and Distance

UNIT III: REASONING ABILITY

(32Hrs)

- **Analytical Reasoning**
 - Basic English
 - Coding and Decoding
 - Comparisons and Rankings
 - Sitting Arrangement
 - Selection and Matching
 - Sequencing
 - Syllogism
- **Critical Reasoning**
 - Statement and Assumption
 - Statement and Conclusion
 - Statement and Strong/Weak Argument
 - Cause and Effects

UNIT IV: ARITHMETICAL REASONING, GEOMETRY AND MENSURATION

(26Hrs)

- **Arithmetical reasoning**
 - Mathematical Puzzles
 - Calendar
 - Clock
 - Direction Sense
- **Geometry**
 - Lines and Angle
 - Triangle
 - Square
 - Circle
- **Mensuration**
 - Area
 - Volume

UNIT V: CAPABILITIES

(32Hrs)

- **Intra-Personal Skills**
 - Self Awareness
 - Self Analysis and Assessment
 - Goal Setting
 - Self Management
 - Self Motivation
 - Attitude
 - Ethics and Values
 - Study Skills/Habits etc.
- **Inter-Personal Skills**
 - Emotional Intelligence (Emotion Management)

- Communication Skills(Presentation Skills)
- Team Working Skill
- Volunteerism
- Problem Solving Skills/ Creativity Skills.
- Making Decision Skill.
- Time and Stress Management etc.
- **Case Studies**
- Implementation of Whole Personality
- **Resume**

TEXT BOOKS: -

1. B.S.Sijiwali and Indu Sijiwali, Non-Verbal Reasoning, Arihant publication
2. B.S.Sijiwali and Indu Sijiwali, Verbal & Analytical Reasoning, Arihant publication.
3. Dr. R.S.Agarwal, Quantitative Aptitude, S. Chand publication

REFERENCE BOOKS:-

1. Chandresh Agrawal's, Reasoning (verbal & non verbal), Shri Shyamsunder publication
2. B.S.Sijiwali and Indu Sijiwali, A New Approach to reasoning, Arihant publication
3. Brijesh Tripathi, Dr. Satyajeet Rawat and Neetika Goyal, Pathfinder for CDS Examination, Arihant publication.
4. Jaikishan and Preamkishan , Test of Reasoning, Arihant publication.
5. Rajesh Varma, Objective Arithmetic, Arihant publication.

Evaluation norms for Co-Curricular Course -100% CIE

- Only remarks will be given at the end of the course
- A separate certificate on completion of each course will be issued by the CoE

100% CIE components

S.N	Component	Content	Duration if any	Mark	Sub Total
1.	Attendance	Min. 80%	For full 160 hrs course	10	10
2.	Assignment	Two assignments each of 10 marks		10	20
3.	Test – I to V	Each test of 10 marks from each unit	-	10	50
4.	Test	Full syllabus of the theory	1 hour	20	20
Total					100

- All above are compulsory components
- In event of non-completion of course, the student has to re-do the course or opt for another one.