

P.R. GOVT. COLLEGE (AUTONOMOUS), KAKINADA
II year B.Sc., Degree Examinations - III Semester
Mathematics Course-III: ANALYTICAL SKILLS
(w.e.f. 2020-21 Admitted Batch)

Course Objective: Intended to inculcate quantitative analytical skills and reasoning as an inherent ability in students.

Course Outcomes:

After successful completion of this course, the student will be able to

- Understand the basic concepts of arithmetic ability, quantitative ability, logical reasoning, business computations and data interpretation and obtain the associated skills.
- Acquire competency in the use of verbal reasoning.
- Apply the skills and competencies acquired in the related areas
- Solve problems pertaining to quantitative ability, logical reasoning and verbal ability inside and outside the campus.

UNIT – 1 (10 Hrs)

Arithmetic ability:

Algebraic operations BODMAS, Fractions, Divisibility rules, LCM & GCD (HCF).

Verbal Reasoning:

Number Series, Coding & Decoding, Blood relationship, Clocks, Calendars.

UNIT – 2: (10 Hrs)

Quantitative aptitude:

Averages, Ratio and proportion, Problems on ages, Time-distance-speed.

Business computations:

Percentages, Profit & loss, Partnership, simple compound interest.

UNIT – 3: (07 Hrs)

Data Interpretation:

Tabulation, Bar Graphs, Pie Charts, line Graphs. Venn diagrams.

Recommended Co-Curricular Activities (03 Hrs)

Surprise tests / Viva-Voice / Problem solving / Group discussion.

Text Book:

Quantitative Aptitude for Competitive Examination by R.S. Agrawal, S.Chand Publications.

Reference Books:

1. Analytical skills by Showick Thorpe, published by S Chand And Company Limited, Ramnagar, New Delhi-110055.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw Hill Publication

BLUE PRINT FOR QUESTION PAPER PATTERN

Unit	TOPIC	S.A.Q	E.Q	Marks allotted to the Unit
I	Arithmetic ability&Verbal reasoning	3	2	35
II	Quantitative aptitude&Business computations	3	2	35
III	Data interpretation	2	2	30

SEMESTER-III

S.A.Q. = Short answer questions (5 marks)

E.Q = Essay questions (10marks)

Short answer questions : 4 X 5 = 20M

Essay questions : 3X 10 = 30M

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Total Marks = 50

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P.R. Government College (Autonomous), Kakinada
II year B.Sc., Degree Examinations - III Semester
Foundation course: Analytical Skills
(Model Paper w.e.f. 2020-21)

Time: 2 Hrs	Total
Marks: 50M	

SECTION -A

Answer any 4 questions. Each question carries 5 marks

4×5 = 20M

1. Simplify (i) $36 \times 15 - 56 \times 784 \div 112 = ?$
(ii) $5163 - 4018 + 3209 = ?$
2. How many numbers between 11 and 90 are divisible by 7 ?
3. What was the day of the week on 16th April 2000 ?
4. Divide Rs.1162 among A,B,C in the ratio 35:28:20.
5. The sum of the three consecutive odd numbers is 285. What is the ratio of the smallest and the largest numbers respectively ?
6. One-fourth of two-fifth of 30% of a number is 15. What is 20% of that number ?
7. Prasad sold his work tools for Rs.1850 and earned a profit of 25%. At what price did Prasad buy the work tools ?
8. Population in Millions

City	Total Population	Male Population
A	12	6.5
B	15	7.2
C	17	9.0
D	19	9.8
E	22	10.8

What is the average female population in million ?

Section-B

Answer all the questions. Each question carries 10 marks.

(3×10 = 30 M)

9. Evaluate (i) $784 \times \sqrt{256} \times 343 = 4^4 \times 7^?$

(ii) LCM of two numbers is 120 and their HCF is 10. What is the sum of those two numbers?

(OR)

10. What was the day of the week on 15th August 1947?

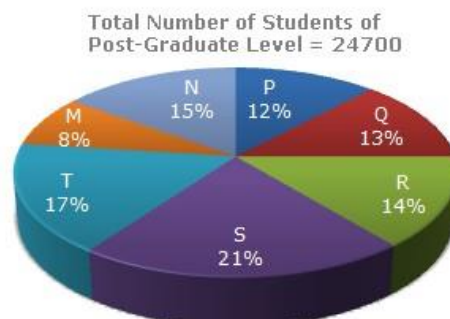
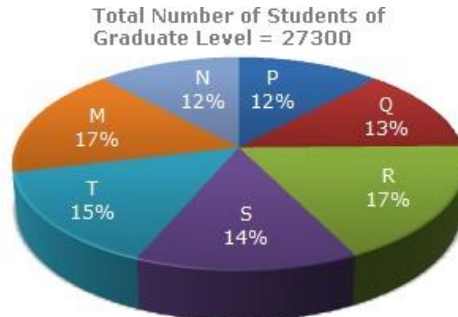
11. A car covers a distance of 540 km in 9 h. Speed of the train is double the speed of the

car. Two – third of the speed of the train is equal to the speed of a bike. How much distance will the bike cover in 5 h?

(OR)

12. The Simple interest accrued on an amount of Rs.2500 at the end of 6 yr is Rs.1875. What would be the simple interest accrued on the amount of Rs.6875 at the same rate and same time period?

13. The following pie-charts show the distribution of students of graduate and post-graduate levels in seven different institutes in a town.



Distribution of students at graduate and post-graduate levels in seven institutes:

- R?
- (i) What is the total number of graduate and post-graduate level students in institute
 - (ii) What is the ratio between the number of students

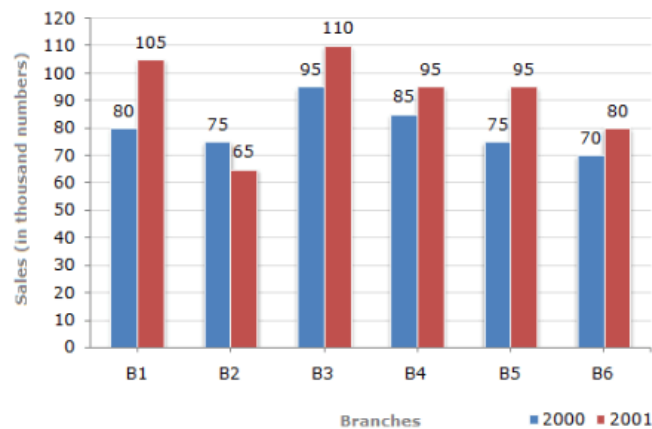
studying at post- graduate and graduate levels
respectively from institute S?

- (iii) How many students of institutes of M and S are studying at graduate level?
- (iv) What is the ratio between the number of students studying at post-graduate level from institutes S and the number of students studying at graduate level from institute Q?
- (v) Total number of students studying at post-graduate level from institutes N and P is?

(OR)

14. The bar graph given below shows the sales of books (in thousand number) from six branches of a publishing company during two consecutive years 2000 and 2001.

Sales of Books (in thousand numbers) from Six Branches - B1, B2, B3, B4, B5 and B6 of a publishing Company in 2000 and 2001.



- (i) What is the ratio of the total sales of branch B₂ for both years to the total sales of branch B₄ for both years?
- (ii) Total sales of branch B₆ for both the years is what percent of the total sales of branches B₃ for both the years?
- (iii) What percent of the average sales of branches B₁, B₂ and B₃ in 2001 is the average sales of branches B₁, B₃ and B₆ in 2000?
- (iv) What is the average sales of all the branches (in thousand numbers) for the year 2000?
- (v) Total sales of branches B₁, B₃ and B₅ together for both the years (in thousand numbers) is?