

QP CODE: D2BAF2401	(Pages: 3)	Reg. No :
		Name :
SECOND SEMESTER FYUGP EXAMINATION, APRIL 2025		
MAJOR COURSE		
AFA2CJ102 : BUSINESS STATISTICS		
(Credits: 4)		
Time: 2 Hours	Maximum Marks: 70	
Section A		
Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)		
1. How is statistics important in commerce and Industry?	BL2	CO1
2. State the formula for finding the number of permutations of n distinct objects taken r at a time.	BL1	CO2
3. The pie chart of expenses for a family shows that 30% is spent on food, 20% on rent, 15% on education, and the rest on miscellaneous expenses. Calculate the central angle for each category.	BL2	CO5
4. Why is Arithmetic mean considered to be the best average?	BL1	CO4
5. What is the difference between an arithmetic sequence and a geometric sequence? Give one example of each.	BL2	CO3
6. What is mean deviation? Write its formula for both grouped and ungrouped data.	BL1	CO4
7. If four arithmetic means are inserted between 10 and 35, find the common difference and list all the terms of the sequence.	BL2	CO3
8. If the terms of an HP are the reciprocals of an AP, what is the nth term of an HP whose corresponding AP has the nth term $a_n = a + (n - 1)d$?	BL2	CO3
9. Define coefficient of variation (CV) and write its formula.	BL1	CO4
10. Define a histogram. How is it different from a bar chart?	BL1	CO5
(PTO)		

Section B

Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)

11. The following table shows the sales (in lakhs) of a company over five years: BL2 CO1

Year	2019	2020	2021	2022	2023
Sales (in Lakhs)	25	30	35	40	45

Construct a simple bar diagram to represent this data.

12. How many geometric means should be inserted between 2 and 486 so that the sequence remains a geometric progression with a common ratio of 3? BL2 CO3

13. In how many ways can the letters of the word "MATHEMATICS" be arranged? (Consider repeated letters.) BL2 CO2

14. Find median for the following data. BL2 CO4

Income	Below 50	50-60	60-70	70-80	80-90	Above 90
No. of students	2	5	8	10	7	3

15. Insert 4 arithmetic means between 52 and 77. BL2 CO3

16. A school surveyed the favorite sports of students and found the following distribution: BL2 CO5
- Cricket: 40 students
Football: 30 students
Basketball: 20 students
Badminton: 10 students
- Suggest a suitable diagram to represent this data and justify your choice.

17. The frequency distribution of customer wait times at a bank is given below: BL2 CO5

Wait time	0-5	5-10	10-15	15-20	20-25
Frequency	15	30	25	20	10

(a) Construct a histogram for this data.

(b) Identify whether the distribution is uniform, skewed, or normal.

18. A group consists of 4 girls and 7 boys. In how many ways can a team of 5 members be selected if the team has (i) no girl ? (ii) at least one boy and one girl ? (iii) at least 3 girls ? BL3 CO2

Section C

Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)

19.

What is cumulative frequency distribution? Explain its types with an example.

Construct a less than cumulative frequency table for the given data:

Class Interval	Frequency
0 – 10	5
10 – 20	8
20 – 30	12
30 – 40	10
40 – 50	7

BL3 CO1

20.

The 5th term of a G.P. is 48, and the 8th term is 384. Find the first term and the common ratio. Also, determine the sum of the first 10 terms.

BL3 CO3

CO : Course Outcome

BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)