Reg. No. : $\qquad$
Name : $\qquad$

Time : 3 Hours
Max. Marks : 40
SECTION - A

Answer the 4 questions. Each question carries $1 / 2$ marks.

1. What is classical probability?
2. Define Set theory.
3. What do you mean by power of test ?
4. What is degree of freedom?
SECTION - B

Answer 4 questions. Each carries 1 mark.
5. Differentiate independent and dependent event.
6. Mention any two merits of binomial distribution.
7. Mention any four programming technique.
8. What is non-parametric test ?
9. What are the uses of standard error ?
10. What is one way ANOVA ?
SECTION - C

Answer any 6 questions (not exceeding one page). Each carries 3 marks.
11. Explain the functions of quantitative technique.
12. Explain the procedure of testing hypothesis.
13. Explain the importance of normal distribution.
14. The probability of a bomb hitting a target is $1 / 5$. Two bombs are enough to destroy a bridge. If six bombs are aimed at the bridge, find the probability that the bridge is destroyed.
15. A card is drawn from as pack of 52 cards and a gambler bets it as a spade or an ace. What are the odds against his winning this bet ?
16. A bag contains 4 white, 2 black, 3 yellow and 3 red balls. What is the probability of getting a white or a red ball at random in a single draw ?
17. If the mean of a Possion distribution is 1.5 , find mode and standard deviation.
18. Find the probability that the number of heads lie in the range 185 and 220 when a fair coin is tossed 400 times ?
SECTION - D

Answer any 2 questions. Each carries 8 marks.
19. The following table gives the yield of three varieties.

| Varieties | Yields |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 30 | 27 | 42 | - | - |
| 2 | 51 | 47 | 37 | 48 | 42 |
| 3 | 44 | 35 | 41 | 36 | - |

## Perform an analysis of variance.

20. The probability of student A passing an examination is $3 / 5$ and of student B passing 4/5. Assuming the two events " A passes" and "B passes" as independent, find the probability of :

- Both students passing the examination
- Only A passing the examination
- Only one of them passing the examination
- None of them passing the examination.

21. The weekly wages of 1000 workmen are normally distributed around a mean of Rs. 70 and with a S.D of Rs.5. Estimate the number of workers whose weekly wages will be

- Between Rs. 70 and Rs. 72
- Between Rs. 69 and Rs. 72
- More than Rs. 75
- Less than Rs. 63
- Also estimate the lowest wages of the 100 highest paid workers.

