



K22U 1243

Reg. No. :

Name :

**II Semester B.B.A./B.B.A.(RTM) Degree (C.B.C.S.S. – O.B.E. – Regular/
Supplementary/Improvement) Examination, April 2022
(2019 Admission Onwards)
Complementary Elective Course
2C03BBA/BBA(RTM) : QUANTITATIVE TECHNIQUES FOR BUSINESS
DECISIONS**

Time : 3 Hours

Max. Marks : 40

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. What do you mean by exhaustive events ?
2. What do you mean by inverse probability ?
3. What are the important properties of a probability distribution ?
4. If mean and variance of a binomial distribution are 4 and 2 respectively, find the parameter "n".
5. What do you mean by Points of inflexion ?
6. What is meant by level of significance ? **(6×1=6)**

SECTION – B

Answer **any six** questions. **Each** question carries **2** marks.

7. What do you mean by quantitative technique ?
8. Mention any four important functions of quantitative techniques.
9. Explain classical definition of probability with example.
10. Explain addition theorem of probability.
11. An unbiased coin is tossed 4 times. What is the probability of getting 2 heads ?
12. Write down any four properties of Poisson Distribution.
13. What do you mean by Type I and Type II errors ?
14. What are the important assumptions in Non-parametric tests ? **(6×2=12)**

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SECTION – C

Answer **any four** questions. **Each** question carries **3** marks.

15. Explain the uses of quantitative techniques in business.
16. The odds in favour of Arun solving a problem in Management Accounting is 14 to 16 and the odds against Bipin solving the same problem are 8 to 6. What is the probability that (a) problem is solved and (b) problem is not solved ?
17. What are the important limitations of quantitative techniques ?
18. A company manufactures certain type of products using 3 types of machines. The figures of daily production are : Machine A – 3000 Units, Machine B – 2500 Units and Machine C – 4500 Units. Past experience shows that 1%, 1.2% and 2% of the output produced respectively by Machine A, Machine B and Machine C are defective. One unit of output is drawn randomly from a day's production and is found to be defective. What is the probability that it is manufactured by (1) Machine A, (2) Machine B, (3) Machine C ?
19. The income of a group of 10,000 persons were found to be normally distributed with mean Rs. 520 and S.D. Rs. 60. Find the lowest income of the richest 500.
20. A sample of 1000 students from a district was taken and their average weight was found to be 112 pounds with a S.D. of 20 pounds. Test whether mean weight of students in the district is 120 pounds at 0.95 level of confidence.

(4×3=12)

SECTION – D

Answer **any two** questions. **Each** question carries **5** marks.

21. A sister and brother appear in an interview for two vacancies in the same post. The probability of brother's selection is $\frac{1}{7}$ and that of sister's selection is $\frac{1}{5}$. What is the probability that (a) both of them will be selected, (b) only brother will be selected, (c) only one of them will be selected, (d) none of them will be selected ?
22. The products produced by a company were checked by examining samples. The defectives are found as shown below :

No. of defectives	0	1	2	3	4	5	6	7
No. of samples	7	6	19	35	30	23	7	1

Fit a binomial distribution.

23. What is Normal Distribution ? What are its properties ?
24. A company produces insulated washers for electric devices of average thickness of 0.25 cm. A random sample of 10 insulated washers was to have an average thickness of 0.24 cm, with a standard deviation of 0.02 cm. Test the significance of the deviation at 5% level of significance.

(2×5=10)