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Name.....

Reg. No.....

**SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2024**

Information Technology

BIT 2C 03—PROBABILITY AND STATISTICS

(2019—2023 Admissions)

Time : Two Hours

Maximum : 60 Marks

Section A

Each question carries 2 marks.

Ceiling 20 Marks.

1. Define primary data . Mention any *two* methods of primary data.
2. Define population and sample.
3. What is systematic sampling ?
4. What are the uses of graphs ?
5. What are the merits of arithmetic mean ?
6. Define standard deviation.
7. What is the probability that a leap selected at random will contain 53 Sundays ?
8. Define binomial distribution.
9. What do you mean by Simple and multiple regression.
10. If 3 % of electric bulbs manufactured by company are defective, find the probability that in a sample of 100 bulbs, exactly five bulbs are defective ?
11. Find range and Co-efficient of range 25, 32, 8, 32, 42, 10, 20, 18, 28.
12. If a sample of size 22 items has a mean of 15 and another sample size 18 items has a mean of 20. Find the mean of the combined sample ?

Turn over

Section B*Each question carries 5 marks.**Ceiling 30 Marks.*

13. What is pi diagram ? Explain the construction of a pi diagram ?

14. Draw a frequency polygon :

X	:	10–20	20–30	30–40	40–50	50–60	60–70
F	:	5	8	15	20	12	7

15. Find median of the following data :

Class	:	0–10	10–20	20–30	30–40	40–50	50–60	60–70
Fre	:	8	12	20	23	18	7	2

16. Compute QD and co-efficient of QD

23, 25, 8, 10, 9, 29, 45, 85, 10, 16

17. Calculate Co-efficient of correlation :

X	:	11	12	13	14	15	16	17	18	19	20
Y	:	30	29	29	25	24	24	24	21	18	15

18. Three persons A, B and C are simultaneously shooting a target. Probability of A hitting the target is $\frac{1}{4}$ that of B is $\frac{1}{2}$ and that of C is $\frac{2}{3}$ find the probability that (i) exactly one of them will hit the target ; and (ii) atleast one of them will hit the target ?

19. Compute mean deviation about mode for the values

5, 86, 92, 45, 36, 26, 35, 45, 36, 85, 36

Section C*Answer any **one** question.**10 marks.*

20. A panel of two judges P and Q graded seven dramatic performance by independently awarding marks as follows :

Marks by P : 46 42 44 40 43 41 45

Marks by Q : 40 38 36 35 39 37 41

The eight performance for which judge Q could not attend was awarded by 37 by the judge P . If the judge Q has also been present, how many marks would be expected to have been awarded by him to the eight performance.

21. The scores of two bats man A and B in six innings during a certain match are as follows. Examine which of the two batsmen is more consistent in scoring. Who is more efficient batsmen B ?

A : 10 12 80 70 60 100 0 4

B : 8 9 7 10 5 9 10 8

(1 × 10 = 10 marks)