Rigel

MYMENSINGH GIRLS' CADET COLLEGE
TEST EXAMINATION - 2025
CLASS: XII
MULTIPLE CHOICE QUESTIONS
STATISTICS
SECOND PAPER
[According to the Syllabus of 2026]
TIME – 25 minutes
FULL MARKS – 25

Subject Code: | 1 | **3** | 0 |

Set: **Ka**

[N.B. – Answer all the questions. Each question carries ONE mark. Block fully, with a black ball- point pen, the circle of the letter that stands for the correct/best answer in the "Answer sheet" for the Multiple Choice Questions Examination.]

Candidates are asked not to leave any mark or spot on the question paper.

1. **What is the probability that at least one item in a sample space will occurr?**
   (a) 0 (b) 0.5 (c) 1 (d) Undefined

2. **Possible value of probability**
   i. -1 ii. 0.5 iii. 0
   Which one is correct?
   (a) i and ii (b) i and iii (c) ii and iii (d) i, ii and iii

   Answer the next two questions based on the following information

   For two comprehensive events A and $B, P(A) = 0.8,$ and $P(B) = 0.6;$

3. **What is the value of** $P(A \cap B)$?
   (a) 0.1 (b) 0.2 (c) 0.3 (d) 0.4

4. **The events** A **and** B **are –**
   i. independent
   ii. dependent
   iii. non-disjoint
   Which one is correct?
   (a) i and ii (b) i and iii (c) ii and iii (d) i, ii and iii

5. **Which one is an example of a discrete random variable?**
   (a) The amount of liquid in a glass (b) Temperature readings at noon
   (c) Number of defective items in a batch (d) Exact age in years

   Answer the next TWO questions based on the following information

X	0	1	2	3
P(X)	$\frac{1}{4}$	m	$\frac{1}{3}$	$\frac{1}{6}$

6. **What is the value of m?**
   (a) $\frac{1}{3}$ (b) $\frac{5}{12}$ (c) $\frac{1}{4}$ (d) $\frac{1}{6}$

7. **Find** $F(2)$**.**
   (a) $\frac{1}{2}$ (b) $\frac{3}{4}$ (c) $\frac{5}{6}$ (d) $\frac{2}{3}$

8. **If** $y = ax + b$**, what is the value of** $V(y)$?
   (a) $aV(X)$ (b) $a^2V(X)$ (c) $V(X)$ (d) a^2

9. **If** $P(x) = \frac{1}{n}; x = 1, 2, 3, \cdots, n$**, what is the value of** $E(X)$?
   (a) $\frac{n}{2}$ (b) $\frac{n-1}{2}$ (c) $\frac{n+1}{2}$ (d) $n + 1$

10. **If** $E(X^2) = 13$ **and** $V(X) = 4$**, what is** $E(X)$**?**
    (a) 2 (b) 3 (c) 4 (d) 5

11. **What is the Variance of Binomial Distribution?**
    (a) np (b) npq (c) nq (d) $\sqrt{npq}$

12. **The characteristics of binomial distribution–**

i. $E(X) > V(X)$
ii. $E(X) = V(X)$
iii. $E(X) = np$

Which one is correct?

(a) i and ii (b) i and iii (c) ii and iii (d) i, ii and iii

13. **X is a Poisson variate. P(2) = P(4). What is the value of the parameter?**

(a) 12 (b) 3.46 (c) 3.6 (d) 4

14. **Mean of a Poisson variate is a. What is its standard deviation?**

(a) 0 (b) a (c) $a^{\frac{1}{2}}$ (d) a^2

15. **What is the probability of a certain value of the Normal distribution?**

(a) 0 (b) 1 (c) 0.5 (d) 0.1

16. **What is the skewness of the Normal distribution?**

(a) 0 (b) 1 (c) 2 (d) 3

Answer the next two questions based on the following information

A Normal distribution has mean 12 and standard deviation 2.

17. $P(10 < X < 13.5) = -$

(a) 0.50 (b) 0.56 (c) 0.64 (d) 0.45

18. **P(X is between 6 and 18) =** –

(a) 0.002 (b) 0.976 (c) 0.997 (d) 0.590

19. **Which Index Number satisfies the time and factor reversal test?**

(a) Laspeyres' index number (b) Paasche's index number
(c) Fisher's index number (d) Marshal-Edgeworth index number

20. **Which index number shows an upward trend?**

(a) Laspeyres' index number (b) Bowley's index number
(c) Fisher's index number (d) Marshal-Edgeworth index number

21. **A sample characteristic is known as a** –

(a) Quantity (b) Statistic (c) Parameter (d) Unit

22. **The complete enumeration of all items in a target population is** –

(a) Pilot survery (b) Sample survey (c) Census (d) Sampling frame

23. **Total number of children born to each 1000 people in any country or region is called** –

(a) TFR (b) GFR (c) CBR (d) GRR

24. **A city has a dependency ratio of 0.48. If the working-age population (15–64) is 62,500, what is the number of dependents (ages 0–14 and 65+)?**

(a) 30,000 (b) 25,000 (c) 22,000 (d) 20,000

25. **What is the formula of population density?**

(a) $\frac{M}{F} \times 100$ (b) $\frac{F}{M} \times 100$ (c) $\frac{B}{P} \times 100$ (d) $\frac{P}{A}$