*Falcon*

**MYMENSINGH GIRLS' CADET COLLEGE**
SECOND TERM END 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:** | **A** |

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[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. **Which is an example of time series data?**
   (a) Number of calls received by a call center each month
   (b) Height of children at different ages
   (c) Tota salary of all employees at a company
   (d) Population of different countries in 2020

2. **Which can measure trend most precisely?**
   (a) Graphical method (b) Semi-average method
   (c) Moving average method (d) Quarter-average method

   **Answer the next THREE questions based on the following information**

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| USD Exchange Rate | 78.35 | 79.49 | 82.87 | 83.26 | 84.60 | 84.37 | 85.80 | 106.70 |

Table 1: Source–Investing.com

3. **What is the second value of semi-average method?**
   (a) 85.40 (b) 90.37 (c) 91.73 (d) 89.78

4. **What kind of a trend do the data have?**
   (a) Upward (b) Downward
   (c) Both upward & downward (d) No trend

5. **Which component of time series is visible in the later part of the data?**
   (a) Seasonal Variation (b) General Trend (c) Irregular Variation (d) Cyclic Variation

6. ${}^{n}p_{r} =$
   (a) $\frac{n!}{(n-r)!}$ (b) $\frac{n!}{(n+r)!}$ (c) $\frac{n!}{r!}$ (d) $\frac{n!}{(r-n)!}$

7. **The probability of two disjoint sets happening together is:**
   (a) 0.5 (b) 0 (c) 1 (d) $0 \leq x < 1$

8. $P(A \cap B) = P(A) \times P(B)$ **implies A & B are –**
   (a) Disjoint (b) Independent (c) Joint (d) Independent

9. **Tossing a die r times generates how many outcomes?**
   (a) $6 \times r$ (b) $r^6$ (c) $6^r$ (d) $2^r$

   **Answer the next three questions using the following information**

   $P(C) = \frac{2}{5}, P(D) = \frac{3}{4} \& P(C \cup D) = \frac{9}{10}$

10. $P(C \cap D) =?$
    (a) $\frac{1}{10}$ (b) $\frac{1}{4}$ (c) $\frac{7}{20}$ (d) $\frac{4}{5}$

11. $P(C \cap \bar{D}) =?$
    (a) $\frac{1}{10}$ (b) $\frac{2}{5}$ (c) $\frac{2}{20}$ (d) $\frac{3}{10}$

12. **What is the probability that D occurs or C does not occur?**

(a) $\frac{17}{20}$ (b) $\frac{7}{10}$ (c) $\frac{3}{4}$ (d) $\frac{11}{20}$

An urn contains 5 red, 7 blue, and 8 green balls.

13. **What is the probability that the ball drawn is red?**

(a) 0.26 (b) 0.25 (c) 0.2 (d) 0.4

14. **P(The ball drawn is not blue)–**

(a) $\frac{13}{20}$ (b) 0.5 (c) $\frac{7}{20}$ (d) $\frac{8}{20}$

15. **Which one is NOT an example of a continuous random variable –**

(a) Weight (b) Height (c) Time (d) Size of television

16. **The properties of a discrete probability distribution table are–**

i. $\sum P(X) = 1$

ii. $P(X) \geq 0$ for all $X$

iii. Each probability corresponds to a discrete value.

**Which one is correct?**

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

17. **What is $F(-\infty)$ for a distribution function $F(x)$?**

(a) $-\infty$ (b) -1 (c) 0 (d) 1

**Answer the next two questions based on the following information**

| x | 1 | 2 | 3 |
|---|---|---|---|
| P(x) | $\frac{1}{3}$ | $\frac{1}{2}$ | $\frac{1}{6}$ |

18. **What is $F(2)$?**

(a) $\frac{2}{3}$ (b) $\frac{5}{6}$ (c) $\frac{1}{2}$ (d) 1

19. $P(1 < X \leq 2)$

(a) $\frac{5}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{2}$ (d) $\frac{1}{6}$

20. **E(4x+2Y) = ?**

(a) E(X) - E(Y) (b) 4E(X) + 2E(Y) (c) 2E(X) + 4E(Y) (d) $E(X) \times E(Y)$

21. **What is the expected value of of the squared deviation of the value of the random variable from their mean?**

(a) Arithmetic Mean (b) Expectation (c) Variance (d) Co-variance

22. **If $E(X) = -0.5$, then $E(1 - 2X) =$?**

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

23. **The possible relationship between $E(X) and E(X^2)$**

i. $E(X) \geq E(X^2)$
ii. $E(X) \leq E(X^2)$
iii. $E(X) = E(X^2)$

**Which one is correct?**

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

"Quote"
– Author