Falcon

SYLHET CADET COLLEGE
MODEL TEST EXAMINATION - 2025
CLASS: HSC
MULTIPLE CHOICE QUESTIONS
STATISTICS
SECOND PAPER
[According to the Syllabus of 2025]
TIME – 15 minutes
FULL MARKS – 15

Ques Setter	
Moderator	
VP	

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. $P(A) = 0$ **implies**

   i. A is an impossible event
   ii. A would ocurr in extreme cases
   iii. $P(\bar{A})$ is a certain event

   Which one is correct?

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

2. **If a neutral die is thrown, the probability of having a digit greater than 6 is**

   (a) $\frac{1}{6}$ (b) $\frac{0}{6}$ (c) $\frac{2}{3}$ (d) $\frac{3}{6}$

3. **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

4. **A factory reports that 8 out of every 100 manufactured items are defective. If an item is chosen at random, what is the probability that it is not defective?**

   (a) 0.08 (b) 0.92 (c) 0.80 (d) 0.12

5. **If A is an uncertain event, which one is possible?**

   i. $0 < P(A) < 1$
   ii. $P(A) = 0.1$
   iii. $P(A) = 0$

   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.

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

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

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

7. **P(The ball drawn is not blue)–**

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

8. **A fair coin is tossed twice. What is the probability of getting at least one tail?**

   (a) $\frac{1}{4}$ (b) $\frac{1}{2}$ (c) $\frac{3}{4}$ (d) $\frac{1}{3}$

9. **Which of the following correct?**

   (a) $\frac{P(A)}{P(B)} = \frac{P(B|A)}{P(A|B)}$ (b) $\frac{P(A)}{P(A|B)} = \frac{P(B|A)}{P(B)}$ (c) $\frac{P(A)}{P(B)} = \frac{P(B|A)}{P(B)}$ (d) $\frac{P(A)}{P(B)} = \frac{P(A|B)}{P(B|A)}$

10. **If a die is thrown once, the probability of getting even numbers is –**

    i. A certain event
    ii. A composite event
    iii. An uncertain event

    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 $P(B) = 0.6;$

11. **What is the value of** $P(A \cap B)$?

    (a) 0.1 (b) 0.2 (c) 0.3 (d) 0.4

12. **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

    Answer the next three questions using the following information:

    $P(E) = \frac{1}{3}, P(F) = \frac{1}{4} \& P(E \cap F) = \frac{1}{10}$

13. $P(E \cup F) =$?

    (a) $\frac{1}{58}$ (b) $\frac{3}{10}$ (c) $\frac{58}{60}$ (d) $\frac{58}{120}$

14. $P(E \cap \bar{F}) =$?

    (a) $\frac{7}{40}$ (b) $\frac{7}{30}$ (c) $\frac{3}{10}$ (d) $\frac{1}{30}$

15. **What is the probability that F occurs or E does not occur?**

    (a) $\frac{11}{30}$ (b) $\frac{19}{30}$ (c) $\frac{13}{40}$ (d) $\frac{23}{30}$