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Moderator	
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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.  $P(A) = 0$  implies
- i.  $A$  is an impossible event
  - ii.  $A$  would occur 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

Answer the next TWO questions based on the following information.

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

5. What is the probability that the ball drawn is red?

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

6. P(The ball drawn is not blue)–

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

7. 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)  $\frac{1}{3}$

8. 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)  $\frac{P(A)}{P(B)} = \frac{P(A|B)}{P(B|A)}$

Answer the next three questions using the following information:

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

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

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

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

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

11. 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)  $\frac{23}{30}$

“Quote”  
– Author