

B.Sc.- I (NEP Pattern) Semester-I
SEC05 - Mathematics - Probability

P. Pages : 2

Time : Two Hours



GUG/W/24/15907(S)

Max. Marks : 40

- Notes :
1. Solve all questions.
 2. Selecting multiple answers for the same question is considered incorrect and no marks will be awarded.
 3. All question carry equal marks.

1. Solve the following MCQs **any ten.**

- 1) If two dice are rolled, what is the probability that the sum of the upturned faces will equal 7? **2**
a) $1/5$ b) $1/7$
c) $1/6$ d) $1/12$

- 2) If $P(A \cup B) = 0.75$ and $P(A \cap B) = 0.15$ then $P(A^c) + P(B^c) =$ **2**
a) 0.9 b) 0.6
c) 1.25 d) 1.1

- 3) If $P(E) = 0.9$ and $P(F) = 0.8$ then- **2**
a) $P(E \cap F) \leq 0.7$ b) $P(E \cap F) \geq 0.5$
c) $P(E \cap F) \geq 0.7$ d) $P(E \cap F) \geq 0.3$

- 4) If $P(A) = 6/11$, $P(B) = 5/11$ and $P(A \cup B) = 7/11$, what is the value of $P(B|A)$? **2**
a) $1/3$ b) $2/3$
c) 1 d) None

- 5) Find $P(E|F)$, where E: no tail appears, F: no head appears, when two coins are tossed in the air. **2**
a) 0 b) $1/2$
c) 1 d) None

- 6) If $P(A) = 0.4$, $P(B) = 0.7$ and $P(B|A) = 0.6$ then $P(A \cup B) =$ ----- **2**
a) 0.46 b) 0.86
c) 0.76 d) 0.54

- 7) If the variance of a random variable X is 1 then what will the variance of $3X + 4$? **2**
a) 9 b) 6
c) 7 d) 11

- 8) If X is a discrete random variable such that $P[X = -1] = 0.2$, $P[X = 0] = 0.5$, $P[X = 1] = 0.3$ then $E[X^2] =$ **2**
a) 1 b) 0.4
c) 0.5 d) 9

