**02/04/2020 ATHAVALE CLASSES**

 **Probability & Conic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1) Seven chits are numbered 1 to 7. Four chits are drawn one by one with replacement. Then probability that the least number on any selected chit is 5, is a)  b) c) d)

2) If the range of the random variable X is with  a) b) c) d)

3) If the p.m.f. of a d.r.v. X is then:….. a) b) c) d) None of these

4) A quadratic equation with distinct coefficients is formed. If a, b, c are chosen from the numbers 2,3,5 then the probability that the equation has real roots is

a)  b)  c) d) 

5) A persons goes to office by a car or scooter or bus or train, probability of which are 1/7, 3/7, 2/7, and 1/7 respectively. Probability that he reaches office late, if he takes car, scooter, bus or trains 2/9, 1/9, 4/9 and 1/9 respectively. Given that he reached office in time, the probability travelled by a car is a) b)  c) d)

6) Consider two events A and B such that .For each of the following statements, which is true I.  II. The events A and B are mutually exclusive III. a) I only b) I and II c) I and III d) II and III

7) It is given that the events A and B are such that Then,P(B) is a) b) c) d)

8) If,where P stands for probability, then is equal to a) b) c) d)

9) If = a) b) c) d)

10) In a certain town, 60% of the families own a car 30% own a house and 20% own both a car and a house. If a family is randomly chosen, what is the probability that this family owns a car or a house but not both? a) 0.5 b) 0.7 c) 0.1 d) 0.9

11) The letters of the word “FATHER” are written on separate card. Two cards drawn at random. Then the probability that one is a vowel and one is not a vowel is a) b) c) d)

12) A cricket team of 11 players consist of 4 batsman, 3 all rounder, 3 bowlers and a wicketkeepers, 3 players are selected at random. Then the probability that the selection contains at least one bowler. a)  b) c) d) 13) P(A) = 0.4, P(AB) = 0.7, P(B) = p If A and B are independent event then value of p is a)  b)  c)  d) 

14) If P (B‘) = 0.10 then P (A / B) is a) 1 / 4 b) 1 / 6 c) 1 / 7 d) 1 / 8

15) The probability that a student is not a swimmer is. What is the probability that out of 5 students selected at random 4 are swimmers? a) b)  c)  d) none 16) The probability that in a throw of two dice we get, an even sum or sum less than 5 is, a) b)  c)  d)  17) Two cards are drawn from a well shuffled deck of 52 cards. One after the order without replacement. The probability of first card being a spade and the second a black king is a) 25 / 2652 b) 27 /2650 c) 29 / 2648 d) none

18) If P (A) = 1 / 4, P () = 1 / 2 and  = 5 / 9. Then P (A / B) is a) 3 / 11 b) 5 / 14 c) 6 / 17 d) 7 / 18

19) If A and B are events such that  is a) b) c) d) none 20) The probability that an ordinary or a non – leap year has 53 Sunday, is a) 3 / 7 b) 1 / 7 c) 4 / 7 d) none

21) If represent a hyperbola then k is a) 8 > k b) k < 12 c) 8 < k < 12 d) none

22) If the foci of the ellipse and the hyperbolacoinside then the value of b2 is a) 3 b) 16 c) 9 d) 12

23) If two circlesand cut orthogonally then k = … a) 13 b) – 12 c) – 13 d) 12

24) Two circles whose radii are 15 and 20 and distance between centres is 25, length of common chord…. a) 24 b) 20 c) 16 d) 25

25) Find locus of centre of circles which cut  orthogonally. a) b) c) d) 