UACE MATHEMATICS

HOLIDAY ASSESSMENTS

TIME: 2 hours

Attempt all questions

1. Two events A and B are such that P(A) = $2/5$, and P(A'n B) = $3/10$ and P(B/A) = $3/5$ Find;
   (i) P(A n B) (02 marks)
   (ii) P(A/B) (03 marks)

2. A bag contains 6 blue and 4 yellow balls. Two balls are picked from the bag at random without replacement; determine the probability that;
   (i) The second ball is blue
   (ii) All balls are of the same colour (05 marks)
3. Two events X and Y are such that P(X) = 0.70, P(X ∩ Y) = 0.45 and P(X'∩Y') = 0.18.
   Find: (a) P (Y') (b) P(X or Y but not X and Y) (5 marks)
4. In a certain school, it is known that the probability of a male teacher having the right marriage partner (not his former student) is 0.02. If the probability of a sociologist predicting correctly a male teacher with the right marriage partner as having the right partner is 0.78 and the probability of incorrectly predicting a male teacher with a wrong marriage partner as having the right marriage partner is 0.06,
   What is the probability that a male teacher having the right marriage partner is predicted as having a wrong marriage partner?
5. (a) Two mutually exclusive events A and B such that $P(A) = 2/5$ and $P(B) = 3/7$ find $P(A \cup B)'$
   (b) Two independent events M and N are such that $P(M) =$ 0.5 and $P(N) =$ 0.7 find $P(M \cup N)$
6. The probabilities that three players A, B and C score in netball game are 1/5, 1/4 and 1/3 respectively. If they play together in a game, what is the probability that;
   (i) Only C scores (2 marks)
   (ii) Two and only two score (4 marks)
   iii) At least one player scores (4 marks)
   iv) None of them scores (2 marks)
7. (a) Abel , Bob and Charles applied for the same job in a certain company. The probability that Abel will take the job is ¾. The probability that Bob will take it is ½ , while the probability that Charles won't take it is $1/3$.

What is the probability that;
(i) none of them takes the job?
(ii) one of them will take the job?

(b) Two events A and B are independent. Give that P(AnB^1) = ¼ and P(A/B) = $1/6$ find
   (i) P(A)
   (ii) P(B)
   (iii) P(AnB)
   (iv) P(AUB)^1

BEST WISHES

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