Long Questions

Q.6.09. A card is drawn from a well shuffled pack of 52 playing cards. Find the probability that the drawn card is:

(i) Spade (ii) Jack of Clubs (iii) King
(iv) Queen, King of Diamond, Ace of Hearts or Jack

Q.6.10. If $U=\{5,6,7,...,15\}$, $A=\{4,6,8\}$ and $B=\{11,12,13,14,15\}$ then show that $\overline{A\cup B}=\overline{A}\cap\overline{B}$

Q.6.11. The probability a person will alive in next 20 years is 2/3. What is the probability he will not alive in next 20 years?

Q.6.12. Two coins are tossed. What is the probability that the two heads result, given that there is at least one head?

Q.6.13. In how many ways letters of the following words be rearranged:

(i) Mathematics (ii) Manufacturer
(iii) Convocation (iv) Sociology

Q.6.14. How many possible permutations can be formed from letters of each word?

(i) Infinity (ii) Unusual (iii) Statistics (iv) Hyperbola

Q.6.15. State and prove additional Rule of probability for mutually exclusive events?

Q.6.16. If 3 books are picked at random from a shelf containing 5 novels, 3 books of poems and a dictionary, what is the probability that:

(i) The dictionary is selected?
(ii) 2 novels and one book of poems are selected?