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**M.M.25**

**Ch. Probability IX**

**Time 1hour**

### Section A 1 mark each

1. Probability of an impossible event is \_\_\_\_\_
2. Probability of an event denotes \_\_\_\_\_
3. A coin is tossed 1000 times with the following outcomes: Head 535 times, Tail 465 times. Find probability of each event.
4. A student gets 65, 75, 50, 43, 44 marks in an exam. Find probability of the student getting above 50 in a subject.

### Section B 2 marks each

5. Ten bags of rice, each marked 20 kg, actually contained the following weights of rice (in kg) 20, 20.05, 20.09, 20.07, 19.96, 19.95, 19.93, 19.94, 20 and 20. Find probability that any of these bags chosen at random contain 20 kg of rice.
6. The blood groups of 10 students are recorded as follows A, A, B, B, AB, AB, O, O, B and B. Find that a student chosen at random has blood group (i) A or AB (ii) B
7. 2 coins are tossed together, find probability of (i) exactly one head (ii) at least one head.

### Section C 3 marks each

8. A bag contains 12 red, 15 white and 8 black balls. If a ball is drawn from the bag, what is the probability that the ball is: (i) red (ii) White (iii) black.
9. In a cricket match out of 20 balls he plays. What is the probability that the next ball the batsman plays: (i) will be a boundary (ii) will not be a boundary (iii) Show that the sum of both the probabilities is 1.
10. Find probability 53 Sundays in a leap year.

### Section D 6 marks each

11. Find the probabilities of the following events for a driver chosen at random from the city:
  - (i) being 18 – 25 years of age and having exactly 3 accidents in one year.
  - (ii) being 26 – 35 years of age and having exactly 2 accidents in one year.
  - (iii) being 36 – 50 years of age and having more than 1 accidents in one year.
  - (iv) being above 50 years of age and having more than 2 accidents in one year.
  - (v) having no accidents in one year.

Age of drivers (in years)	Accidents in one year				
	0	1	2	3	Over3
18 – 25	70	40	35	20	10
26 – 35	60	35	30	15	04
36 – 50	50	40	15	10	04
Above 50	30	15	10	05	02

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