Short Answer Type Questions – I

[2 marks]

Que 1. Two coins are tossed 1000 times and the outcomes are recorded as below:

Number of heads	2	1	0
Frequency	200	550	250

Based on this information, find the probability for at most one head.

Sol. P (at most one head) = P (0 head) + P (1 head)

$$= \frac{250}{1000} + \frac{350}{1000} = \frac{800}{1000} = \frac{4}{5}$$

Que 2. In a single throw of two dice, what is the probability of getting a sum of 9?

Sol. Outcomes with sum of 9 = {(3, 6), (4, 5), (5, 4), (6, 3)}

P (getting a sum of 9 is) = $\frac{4}{36} = \frac{1}{9}$

Que 3. In a survey of 364 children aged 19 – 36 months, it was found that 91 liked to eat potato chips. If a child is selected at random. Find the probability that he/she does not like to eat potato chips.

Sol. Children who do not like potato chips = 364 – 91 = 273

P (a child does not like potato chips) = $\frac{273}{364} = 0.75$

Que 4. 80 bulbs are selected at random from a lot and their life time (in hrs) is recorded in the form of a frequency table given below

Lifetime (in hours)	300	500	700	900	1100
Frequency	10	12	23	25	10

Find the probability that bulbs selected randomly from the lot has life less than 900 hours.

Sol. Number of bulbs having life less than 900 hours = 10 + 12 + 23 = 45

P (a bulb has life less than 900 hours) = $\frac{45}{80} = \frac{9}{16}$

Que 5. A die was rolled 100 times and the number of times, 6 came up was noted. If the experimental probability calculated from this information is $\frac{2}{5}$, then how many times 6 came up?

Sol. Probability of an event = $\frac{Frequency\ of\ the\ event\ occurring}{The\ total\ number\ of\ trials}$

Therefore, $\frac{2}{5} = \frac{x}{100}$, I.e., x = 40

Que 6. Two coins are tossed simultaneously 500 times. If we get two heads 100 times, one head 270 times and no head 130 times, then find the probability of getting one or more than one head.

Sol. Since, frequency of one or more than one head = 100 + 270 = 370

Therefore, P (one or more heads) = $\frac{370}{500} = \frac{37}{50}$.

Que 7. A survey was conducted in a locality regarding the eating habits of persons. Out of 450 persons, if 175 found to be pure vegetarian, what is the probability of person, selected at random of being non-vegetarian?

Sol. Number of pure vegetarians = 175
∴ Number of non-vegetarians = 450 – 175 = 275

Probability of a person being non-vegetarians = $\frac{275}{450} = \frac{11}{18}$.

Que 8. In a survey of 364 children aged 20 – 40 months, it was found that 90 liked to eat potato chips. If a child is selected at random, find the probability that he/she does not like to eat potato chips.

Sol. Number of children = 364
Number of children not like to eat potato chips = 364 – 90 = 273.

The required probability = $\frac{273}{364} = 0.75$.