

Directions for questions (1 – 5): Multiple Choice Question (MCQ), carry **ONE** mark each (for each wrong answer: – 1/3).

Q. 1. An urn contains 4 red and 7 orange balls. Two balls are chosen one by one without replacement. What is the probability that the first ball is red and the second ball is orange?

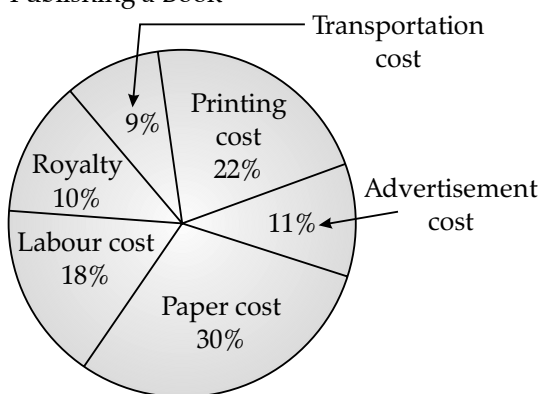
- (a) $\frac{14}{55}$ (b) $\frac{5}{9}$
(c) $\frac{9}{11}$ (d) $\frac{13}{28}$

Q. 2. Two mathematical operators # and \$ are applied on numbers a and b such that $a \# b = \frac{a^2 + b^2}{ab}$ and $a \$ b = \frac{a^3}{b}$. If $a \# b = 2 \$ 4$, then 'a' equals to:

- (a) $\frac{b}{4}$ (b) $\frac{b}{2}$
(c) $2b$ (d) b

Q. 3. The pie-chart given below represents the percentage distribution of the expenditure incurred in publishing a book.

Percentage Expenditures Incurred in Publishing a Book



Based on the given pie-chart, answer the following question.

If the publisher paid ₹ 36000 as paper cost for a certain quantity of books, then the amount (in ₹) of royalty to be paid for these books was:

- (a) 12,000 (b) 16,000
(c) 10,500 (d) 14,400

Q. 4. Choose the GRAMMATICALLY incorrect option.

They had no cash left at home, neither did they have time to go to the bank.

- (a) They had no cash
(b) Neither did they have time
(c) To go to the bank
(d) They have time to go

Q. 5. The children were excited to hear the of the cat chasing its

- (a) tail, tale (b) tale, tail
(c) tell, tale (d) tail, tell

Directions for questions (6 – 10): Multiple Choice Question (MCQ), carry **TWO** marks each (for each wrong answer: – 2/3).

Q. 6. It is important to remember that self-image is the most important possession of all human beings. It is the way we view and regard ourselves in our own eyes and in the eyes of others. As self-conscious beings, we are acutely aware of our image and constantly work towards protecting it from any damage. We also seek approval from others about our own self-image. We feel distraught if we sense that there is even a slight threat to our self-image, because our character is the essence of our lives.

Which of the following statements summarizes the paragraph?

- (a) Self-image is the most important possession of human beings.
(b) Human beings are prone to severe criticism by others.
(c) A person's self-image is easily affected by the society in which he/she lives.
(d) A person constantly tries to gain approval from others.

Q. 7. Consider the following sentences.

- (i) Stephanie jumped over the fence to play with the other children.
(ii) Marie added butter to the batter as it was extremely creamy.

Which of the following is the correct observation about the given sentences?

- (a) (i) is grammatically correct.
(ii) is grammatically incorrect.
- (b) (i) is grammatically incorrect.
(ii) is unambiguous.
- (c) (i) is grammatically incorrect.
(ii) is conceptually incorrect.
- (d) (i) is grammatically correct.
(ii) is ambiguous.
- Q. 8.** Five friends J, K, L, M and N are sitting in a row. All are facing in the same direction. J is sitting next to M, L is sitting next to K, K is not sitting with N who is on the left end of the row. L is on the second position from the right. J is to the left of M. Then, J is sitting between :
- (a) K and M (b) M and N
(c) K and L (d) L and N
- Q. 9.** In a school, 42% of the students choose Physics, 38% of the students choose Chemistry and 12% of the students choose both Physics and Chemistry as their favourite subjects. What percentage of students choose neither Physics nor Chemistry?
- (a) 36% (b) 40%
(c) 32% (d) 34%
- Q. 10.** A girl is facing west. She walks 10 m straight. She, then turns right and walks for 10 m. From there, she takes a left turn and walks for 10 m, then walks for 10 m towards north. She again turns right and walks for 40 m. Now, in which direction is she from her original position?
- (a) North-West (b) South-West
(c) North-East (d) South-East

Answer Key

Q. No.	Answer	Topic Name	Chapter Name
1	(b)	Probability	Modern Maths
2	(d)	Equation and Polynomial	Algebra
3	(a)	Pie-Chart	DI and Reasoning Aptitude
4	(b)	Conjunctions	Grammar
5	(b)	Homophones	Vocabulary
6	(c)	Reading Comprehension	Reading
7	(d)	Logical Reasoning	Inference
8	(b)	Seating Arrangement	DI and Reasoning Aptitude
9	(c)	Set Theory	Modern Maths
10	(c)	Directions	DI and Reasoning Aptitude



ANSWERS WITH EXPLANATION

1. Option (a) is correct.

Given: Red balls = 4, Orange balls = 7

∴ Required probability (without replacement)

$$= \frac{4}{11} \times \frac{7}{10} = \frac{14}{55}$$

2. Option (d) is correct.

Given : $a \# b = \frac{a^2 + b^2}{ab}$ and $a \$ b = \frac{a^3}{b}$

We have, $a \# b = 2 \$ 4$

$$\Rightarrow \frac{a^2 + b^2}{ab} = \frac{(2)^3}{4}$$

$$\Rightarrow \frac{a^2 + b^2}{ab} = \frac{8}{4}$$

$$\Rightarrow a^2 + b^2 = 2ab$$

$$\Rightarrow a^2 + b^2 - 2ab = 0$$

$$\Rightarrow (a - b)^2 = 0$$

$$\Rightarrow a = b$$

3. Option (a) is correct.

Let x be the total expenditure incurred on publishing a book.

Then,

Paper cost = ₹36000

$$\Rightarrow x \times \frac{30}{100} = 36000$$

$$\Rightarrow x = \frac{36000 \times 100}{30}$$

$$= 1,20,000$$

∴ Expenditure on Royalty

$$= 120000 \times \frac{10}{100}$$

$$= ₹ 12,000$$

4. Option (b) is correct.

The option (b) is incorrect as the conjunction 'neither' is always used with 'nor'. To make the correct use of 'neither.....nor' the sentence should be, 'Neither did they have any cash at home nor did they have time to go to the bank.'

5. Option (b) is correct.

The first 'tale' refers to 'a story' and the second 'tail' refers to 'a body part of animals'.

6. Option (c) is correct.

It is clear from the paragraph that a person's self-image depends upon his/her surroundings as he/she always tries to get approval of the people around him/her and tries to change as per the norms of the society.

7. Option (d) is correct.

The first sentence is grammatically correct whereas in the second sentence the adding of butter into the batter has nothing to do with its creaminess, thus, the second option does not make any sense and is ambiguous.

8. Option (b) is correct.

Given: N is sitting on the left end of the row.

So, N's position: N _ _ _ _ (from the right end)

L is on the second position from the right

So, L's position: N _ _ L _

J is sitting just left to M

So, J's position N J M L K

Hence, J is sitting between M and N.

9. Option (c) is correct.

Given: Students who choose Physics

$$n(P) = 42\%$$

Student who choose Chemistry

$$n(C) = 38\%$$

Students who choose both Physics and Chemistry

$$n(P \cap C) = 12\%$$

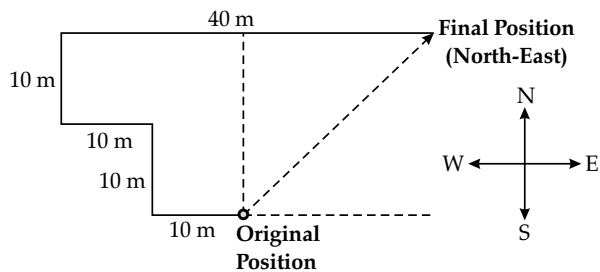
Now, students who choose either of the two subjects,

$$\begin{aligned} n(P \cup C) &= n(P) + n(C) - n(P \cap C) \\ &= 42 + 38 - 12 \\ &= 68\% \end{aligned}$$

Therefore, students who choose neither Physics nor Chemistry

$$= 100 - 68 = 32\%$$

10. Option (c) is correct.



Hence, she is in North-East direction from her original position.

