

CG Pre B.ED 2023 Question Paper with Answers and Solutions June 17 (Memory-based)

Question 1. Fish : ship :: Bird : ?

- A. Flying**
- B. Pigeon**
- C. Aeroplane**
- D. Feather**

Answer. C

Question 2. If roads were rivers, walkers would be:

- A. Fish**
- B. Crocodile**
- C. Swimmers**
- D. Boats**

Answer. D

Question 3. Solve the following equation and tick the correct answer.

$$7x-21-3x+13=7+6x-16$$

- A. 5**
- B. 2**
- C. 1/2**
- D. 3**

Answer. C

Solution. To solve the equation, let's simplify both sides by combining like terms:

$$7x - 21 - 3x + 13 = 7 + 6x - 16$$

Combining the x terms and the constant terms separately, we have:

$$(7x - 3x) + (13 - 21) = (6x + 7) - 16$$

$$4x - 8 = 6x - 9$$

Now, let's isolate the x terms on one side of the equation:

$$4x - 6x = -9 + 8$$

$$-2x = -1$$

Dividing both sides of the equation by -2, we get:

$$x = (-1) / (-2)$$

Simplifying the right side gives:

$$x = 1/2$$

Therefore, the correct answer is:

$$1/2$$

Question 4. The population of a town increased from 60,000 to 65,000. Find the increase percent?

- A. 10%
- B. $10 \frac{1}{3}\%$
- C. $11 \frac{1}{3}\%$
- D. $8 \frac{1}{3}\%$

Answer. D

Solution. To find the increase percent, we can use the following formula:

$$\text{Increase percent} = (\text{Increase in population} / \text{Original population}) * 100$$

In this case, the original population is 60,000 and the increased population is 65,000.

$$\text{Increase in population} = 65,000 - 60,000 = 5,000$$

Now, we can substitute the values into the formula:

$$\text{Increase percent} = (5,000 / 60,000) * 100$$

Calculating this expression gives us:

$$\text{Increase percent} = (1/12) * 100$$

$$\text{Increase percent} = 8 \frac{1}{3}\%$$

Therefore, the increase percent is $8 \frac{1}{3}\%$.

Question 5. A train with a speed of 60 km/hr crosses a pole in 30 seconds. The length of the train in meters is?

- A. 1000
- B. 900
- C. 750
- D. 500

Answer. D

Solution. To find the length of the train, we need to convert the speed from kilometers per hour to meters per second, as the time given is in seconds.

Given: Speed of the train = 60 km/hr
Time taken to cross the pole = 30 seconds

First, let's convert the speed from km/hr to m/s: $1 \text{ km/hr} = (1000 \text{ m}) / (3600 \text{ s}) = 5/18 \text{ m/s}$

Therefore, the speed of the train is: Speed = (60 km/hr) * (5/18 m/s per km/hr) = (300/18) m/s = 50/3 m/s

Now, we can use the formula for calculating distance: Distance = Speed * Time

$$\text{Distance} = (50/3 \text{ m/s}) * (30 \text{ s}) = 500 \text{ m}$$

Therefore, the length of the train is 500 meters.

Question 6. A box contains 4 black balls, 3 red balls and 5 green balls. 2 balls are drawn from the box at random. What is the probability that both the balls are of the same colour?

- A. 47/68
- B. 1/6
- C. 19/66
- D. 2/11

Answer. C

Solution. To find the probability that both balls drawn are of the same color, we need to consider three cases: both black, both red, or both green.

First, let's calculate the probability of drawing two black balls:

$$P(\text{Black and Black}) = (4/12) * (3/11) = 12/132$$

Next, let's calculate the probability of drawing two red balls:

$$P(\text{Red and Red}) = (3/12) * (2/11) = 6/132$$

Finally, let's calculate the probability of drawing two green balls:

$$P(\text{Green and Green}) = (5/12) * (4/11) = 20/132$$

Now, we add up the probabilities of the three cases:

$$P(\text{Same Color}) = P(\text{Black and Black}) + P(\text{Red and Red}) + P(\text{Green and Green}) = 12/132 + 6/132 + 20/132 = 38/132$$

Simplifying the fraction, we get:

$$P(\text{Same Color}) = 19/66$$

Therefore, the probability that both balls drawn are of the same color is 19/66.

Question 7. Find odd name from the following:

- A. Kurukshetra**
- B. Panipat**
- C. Haldighati**
- D. Sarnath**

Answer. D

Solution. The odd name from the given options is Sarnath.

Kurukshetra, Panipat, and Haldighati are all names associated with significant historical battles in India. Sarnath, on the other hand, is a renowned Buddhist pilgrimage site located near Varanasi, Uttar Pradesh. While Sarnath holds great religious and historical significance, it is not commonly associated with a battle like the other options.

Question 8. A machine is sold for Rs. 5060 at a gain of 10%. What would have been the gain or loss percent if it had been sold for Rs.4370?

- A. Profit, 5%**
- B. Loss, 5%**
- C. Profit, 8%**
- D. Loss, 7%**

Answer. B

Solution. To determine the gain or loss percentage, we need to compare the selling price to the cost price.

Let's start with the given information:

Selling price = Rs. 5060 Gain percentage = 10%

To find the cost price, we can use the formula:

Cost price = $(100 / (100 + \text{Gain percentage})) * \text{Selling price}$

Cost price = $(100 / (100 + 10)) * 5060 = (100 / 110) * 5060 = (100 * 5060) / 110 = 506000 / 110 = \text{Rs. } 4600$

Now, let's consider the second scenario:

Selling price = Rs. 4370

To calculate the gain or loss percentage, we can use the formula:

Gain/Loss percentage = $((\text{Selling price} - \text{Cost price}) / \text{Cost price}) * 100$

In this case:

Gain/Loss percentage = $((4370 - 4600) / 4600) * 100 = (-230 / 4600) * 100 = -5\%$

Therefore, if the machine had been sold for Rs. 4370, there would have been a loss of 5%.

Question 9. Starting from his place Ravi walks 3 km, then turns right and walks 4 km ,then again turned left and walked 4 km. At last he was going in the south direction. In which direction Ravi started his journey?

- A. North**
- B. South**
- C. East**
- D. West**

Answer. A

Solution. To determine the direction in which Ravi started his journey, we can analyze his movements and their resulting direction.

Ravi initially walks 3 km in a certain direction. Then he turns right and walks 4 km, which means he is now facing east. After that, he turns left and walks 4 km, which means he is now facing north. Finally, it is stated that he is going in the south direction.

Considering the given information, we can conclude that Ravi initially started his journey facing the North direction.

Question 10. A boy buys a pen for Rs. 25 and sells it for Rs. 30. Find his profit percent?

- A. 15%
- B. 25%
- C. 18%
- D. 20%

Answer. D

Solution. To find the profit percentage, we need to calculate the profit made by the boy and then express it as a percentage of the cost price.

Cost price of the pen = Rs. 25 Selling price of the pen = Rs. 30

Profit = Selling price - Cost price = Rs. 30 - Rs. 25 = Rs. 5

To calculate the profit percentage, we use the formula:

Profit percentage = (Profit / Cost price) * 100

Profit percentage = (5 / 25) * 100 = 20%

Therefore, the boy made a profit of 20% on the pen.