GATE 2022 Aptitude Solution 5th Feb Session

Memory Based

GATE 2022 Aptitude Questions - 5th Feb

Hello GATE Aspirant!

Hope you did the paper to your best level. Here are the solutions and answers to the aptitude questions from the papers conducted on 5th February.

If you are preparing for GATE 2023, visit apsed.in for highly structured courses for GATE CE, ES, GE. Enrol here for a trial

For any sort of queries, just hit us an email to support@apsed.in / Whatsapp at +91-8610625642

Questions & Solutions

Q1) The ____ is too high to be considered ____.

a) fare/fare
b) fair/fare
c) fair/fair
d) fare/fair

Hint

This is a very simple question. You just need to know about homophones i.e., words that have similar pronunciation but different meanings.

To make it simpler, fare means the price and fair means legit/unbiased etc. Therefore, the correct option is d) fare/fair.

Q2) Bell-1, bell-2, and bell-3 ring after every 20 min, 30 min and 50 min respectively. If they ring at 12:00 pm, at what time they will ring again together?

a) 5:00 pm b) 6:00 pm
c) 4: 00 pm d) 4:30 pm

Hint

Find the least common multiple (L.C.M.) between the time intervals of bell ringing frequency i.e., 20, 30, and 50. Convert the L.C.M., which will be in minutes, into hours.

LCM (20,30,50) = 300 min. i.e., 5 hours

Add this hour with the initial time when the bells rang together i.e., 12 in this case, to get the time after which the bell will ring together again.

12:00 + 5 = 5:00 pm

Q3) The ratio of the speeds of P:Q in a 500m race is 3:4. When the race starts P is 140m ahead of Q. Find the distance between P and Q when P wins the race.

a) 40m b) 20m
c) 60m d) 80m

Hint

This question could be easily solved by knowing the concept of the speed-time-distance relationship.

Let the speed of P and Q be 3x and 4x respectively. P covers the remaining distance in time 't'. The distance which P has to cover to win the race is given by,

500 - 140 = 360m

By speed-time relation, time (t) = distance/speed. Therefore, t = 360/3x, which is equal to 120/x or,

x*t = 120

Distance covered by Q will be 4*x*t. As we know, x*t = 120. Therefore, the distance covered by Q is,

4*120 = 480m

The question doesn't end here, we must find the distance between P and Q, which is given by,

500 - 480 = 20m

Q4) There are two unbiased dices with a single letter on each face. The letters in dice are, Q, R, S, T, U, and V. The dices are thrown independently once. What is the probability that the outcomes were composed only of any of the following combinations of the following outcomes, Q, U, and V?

a) 1/4 b) 3/4
c) 1/6 d) 5/36

Hint

We need to get an outcome of Q, U, and V only in both the dices. The sample space for a single dice is 6. Therefore, the probability of getting a Q, U, and V in dice is ***3/6***.

But, we have to find the probability of getting this outcome in both the dices (i.e., and condition). Therefore, multiply the probabilities of both the dice,

i.e., (3/6)*(3/6) = 0.25

Q5) A function of y(x) is defined in the interval [0,1] on the x-axis as,

y(x) = 2 if 0≤x≤1/3

y(x) = 3 if 1/3≤x≤3/4

y(x) = 1 if 3/4≤x≤1

Find the area under the curve for the interval [0,1] on the x-axis.

a) 6/13 b) 6/5

c) 5/6 d) 13/6

Hint

No integration is required in this case, as the curve formed by the function is a simple one.

If you plot the function in a rough graph, you will get three rectangles with dimensions (b * h) as,

(1/3) * 2, (5/12) * 3, and (1/4) * 1.

Find the area of each of the rectangles and add them up to get the final answer. In this case, the answer is ***13/6***.

Q6) If, r^2 + 2r + 6 = 0, then find the value of (r+2)*(r+3)*(r+4)*(r+5).

a) 126 b) 52

c) -126 d) -52

Hint

Most of us will think of solving the first equation to find the r value first. But, it will not yield a single value as it is a quadratic equation. And as a result, you will not be able to find the value for the second equation.

Therefore, simplify the second equation first as,

(r+2)(r+3)(r+4)(r+5) = (r^2 + 5r + 6)(r^2 + 9r +20)

From the first equation, r^2 + 2r = -6, substitute this in the simplified second equation as,

=(3r + 6 - 6)(7r + 20 - 6)

Further simplifying we get,

21(r^2 + 2r), which is 21 * -6 = -126.

Q7) A box contains five balls of the same size and shape. Three of the green coloured balls and two of them are orange-coloured balls. If a green place is drawn is not replaced. If an orange ball is drawn it is replaced with another orange ball. Balls are drawn from the box one at a time. The first ball is drawn. What is the probability of getting an orange ball in the next draw?

a) 19/50 b) 8/50
c) 1/2 d) 23/50

Hint

If a green ball is drawn in the first draw, then the probability for the second draw is,
(3/5)*(2/4) (i.e., 3/5 for the first draw and 2/4 for getting an orange ball in the second draw)

If an orange ball is drawn in the first draw, the ball is replaced with an orange ball. Therefore, the probability will be,

(2/5)*(2/5)

We are not given with outcome of the first draw. But, as only either of these situations actually exists, adding the probabilities of both situations will give the required probability (i.e., OR condition).

(6/20) + (4/25) = 23/50 is the answer

Q8) As you grow older, an injury to your _____ may take longer to _____

a) heel/heel
b) heal/heel
c) heel/heal
d) heal/heal

Hint

As we saw earlier this is a very simple question. You just need to know about homophones i.e., words that have similar pronunciation but different meanings.

To make it simpler, heal means to recover and heel means foot. Therefore, the correct option is d) heel/heal.

Q9) The price of an item is 10% cheaper in store S compared to the price of another store M. Store S charges 150 rupees as delivery charge, while store M puts no delivery charge. A person bought the item from store S and saved 100 rupees. What is the price of the item at store M?

a) 1750 b) 2200
c) 1500 d) 2500

Hint

Frame the equation by considering the price of the item at store M as x and by considering delivery charges & 10% cheaper rate at store S. The equation could be framed by cost saved, which is given as the difference between the price at store M and overall charges at S. The equation will be,

x - ((0.9*x) + 150) = 100

By solving this, the answer (i.e., the price at store M) will be 2,500 rupees.

Q10) Some people believe that what gets measured improves. Some others believe that what gets measured gets gamed. One possibility for the difference in the beliefs in the work culture in organizations. In organizations with good work culture, metrics help improve outcomes. However, the same metrics are counterproductive in organizations with poor work cultures. Which of the following is the correct logical inference based on the information in the above passage?

a) Metrics are useful in organizations with a poor work culture
b) Metrics are never useful in organizations with a good work culture
c) Metrics are useful in organizations with a good work culture
d) Metrics are always counterproductive in organizations with a good work culture

Hint

This is a very simple question. Proofreading the question once or twice will help you arrive at the correct inference.

The correct answer here is option c) Metrics are useful in organizations with a good work culture