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GATE – GENERAL APTITUDE

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SECTION – I

TEST PAPERS

LEVEL - I

PRACTICE TEST

1

-: Gate - General Aptitude:-

Question No.1

The village was nestled in a green spot, the ocean and the hills.

(A) through (B) in

(C) at (D) between

[Correct: 1 | Incorrect: - 1/3]

Question No. 2

Seven cars $\mathrm{P}, \mathrm{Q}, \mathrm{R}, \mathrm{S}, \mathrm{T}, \mathrm{U}$ and V are parked in a row not necessarily in that order. The cars T and U should be parked next to each other. The cars S and V also should be parked next to each other, whereas P and Q cannot be parked next to each other. Q and S must be parked next to each other. R is parked to the immediate right of V. T is parked to the left of U.

Based on the above statements, the only INCORRECT option given below is:

(A) There are two cars parked in between Q and V.

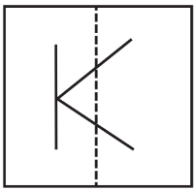
(B) Q and R are not parked together.

(C) V is the only car parked in between S and R.

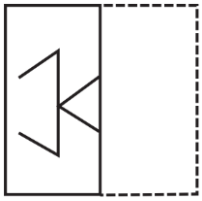
(D) $\mathrm{Car}\mathrm{P}$ is parked at the extreme end.

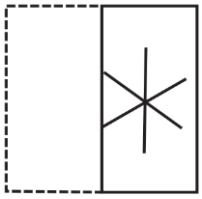
[Correct: 2 | Incorrect: - 2/3]

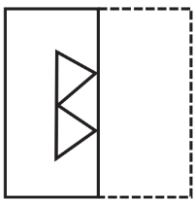
Question No.3

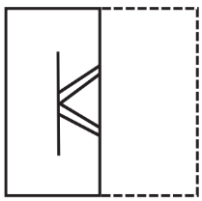


A transparent square sheet shown above is folded along the dotted line. The folded sheet will look like _____.

(A) 

(B) 

(C) 

(D) 

[Correct: 1 | Incorrect: - 1/3]

Question No.4

An automobile travel from city A to city B and returns to city A by the same route. The speed of the vehicle during the onward and return journeys were constant at $60\ \mathrm{km/h}$ and $90\ \mathrm{km/h}$, respectively. What is the average speed in $\mathrm{km/h}$ for the entire journey?

(A) 72 (B) 73

(C) 74 (D) 75

[Correct: 2 | Incorrect: - 2/3]

Question No. 5

Arrange the following three-dimensional objects in the descending order of their volumes:

(i) A cuboid with dimensions $10\ \mathrm{cm}, 8\ \mathrm{cm}$ and $6\ \mathrm{cm}$

(ii) A cube of side $8\ \mathrm{cm}$

(iii) A cylinder with base radius $7\ \mathrm{cm}$ and height $7\ \mathrm{cm}$

(iv) A sphere of radius $7\ \mathrm{cm}$

(A) (i), (ii), (iii), (iv) (B) (ii), (i), (iv), (iii)

(C) (iii), (ii), (i), (iv) (D) (iv), (iii), (ii), (i)

[Correct: 1 | Incorrect: - 1/3]

Question No.6

Given below are two statements followed by two conclusions. Assuming these statements to be true, decide which one logically follows.

Statements:

I. No manager is a leader.

II. All leaders are executives.

Conclusions:

I. No manager is an executive.

II. No executive is a manager.

(A) Only conclusion I follows.

(B) Only conclusion II follows.

(C) Neither conclusion I nor II follows.

(D) Both conclusions I and II follow.

[Correct: 2 | Incorrect: - 2/3]

Question No.7

Fill in the blank with the correct idiom/phrase.

That boy from the town was a_____ in the sleepy village.

(A) dog out of herd (C) fish out of water

(B) sheep from the heap (D) bird from the flock

[Correct: 1 | Incorrect: - 1/3]

Question No.8

In a class of 300 students in an M. Tech programme, each student is required to take at least one subject from the following three:

M600: Advanced Engineering Mathematics

C600: Computational Methods for Engineers

E600: Experimental Techniques for Engineers

The registration data for the M.Tech class shows that 100 students have taken $M600$, 200 students have taken $C600$, and 60 students have taken E 600 . What is the maximum possible number of students in the class who have taken all the above three subjects?

(A) 20 (B) 30

(C) 40 (D) 50

[Correct: 2 | Incorrect: - 2/3]

Question No. 9

Tanya is older than Eric.

Cliff is older than Tanya.

Eric is older than Cliff.

If the first two statements are true, then the third statement is:

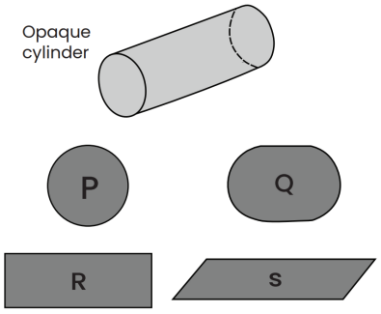
(A) True (B) False

(C) Uncertain (D) Data insufficient

[Correct: 1 | Incorrect: - 1/3]

Question No.10.

An opaque cylinder (shown below) is suspended in the path of a parallel beam of light, such that its shadow is cast on a screen oriented perpendicular to the direction of the light beam. The cylinder can be reoriented in any direction within the light beam. Under these conditions, which one of the shadows P, Q, R, and S is NOT possible?



(A) P (B) Q

(C) R (D) S

[Correct: 2 | Incorrect: - 2/3]

IFAS GATE APTITUDE TEST

Test - 1

Full Marks : 15

Fill-in Completely !

✔ A B C D
○●○○

1.	2.	3.	4.	5.
A B C D ○○○○	A B C D ○○○○	A B C D ○○○○	A B C D ○○○○	A B C D ○○○○
6.	7.	8.	9.	10.
A B C D ○○○○	A B C D ○○○○	A B C D ○○○○	A B C D ○○○○	A B C D ○○○○

	2 Marks		1 Marks	
Correct answer	___ X 2 =		___ X 1 =	
Incorrect answer	___ $\times \frac{-2}{3}$ =		___ $\times \frac{-1}{3}$ =	
Total Marks				

ANSWER KEY									
1	2	3	4	5	6	7	8	9	10
(D)	(D)	(C)	(A)	(D)	(C)	(C)	(B)	(B)	(D)

EXPLANATION

1. Explanation:

notion: The term "between" is frequently used to describe the space, time, or distinctions that divide two objects, persons, locations, concepts, etc.

Calculation: Let's go over each choice individually.

A. Through: Does not accurately describe the village's placement between the hills and the ocean because it implies movement from one side to the other.

B. In: Suggests that the hamlet is inside a green area around by the hills and the ocean. It also suggests that the community is inside an enclosed place.

C. At: Expresses a precise place or location rather than giving the impression that you are positioned between the hills and the ocean.

D. Between: The village's placement in the middle, with the hills on one side and the ocean on the other, is accurately conveyed.

The phrase "between" best expresses the village's location in relation to the hills and the ocean, making it the most appropriate preposition for the statement.

As a result, choice (A) is accurate.

2. Explanation:

The configuration can be expressed as follows:

Arrangement 1: Vehicles S and V should be parked adjacent to one another in

$$\mathrm{S_L} \leftrightarrow \mathrm{V_R}$$

OR

$$V_L \leftrightarrow \mathrm{S_R}$$

Arrangement 2: Parking spaces P and Q cannot be adjacent to one another.

Third arrangement: Q and S have to park adjacent to one another.

$$\mathrm{Q}_L \leftrightarrow \mathrm{S_R}$$

OR

$$\mathrm{S_L} \leftrightarrow Q_\mathrm{R}$$

Arrangement 4: R is parked directly to V's right.

$$V_L \leftrightarrow R_\mathrm{R}$$

T is parked to the left of U in arrangement 5.

$$\mathrm{T}_L \leftrightarrow \mathrm{U_R}$$

From Arrangement 1 and Arrangement 4 the arrangement will be.

$$S\ V\ R$$

From Arrangement 3,

$$Q\ S\ V\ R$$

From Arrangement 2 and Arrangement 5 the final arrangement will be,

$$T\ U\ Q\ S\ V\ R\ P$$

Conclusion:

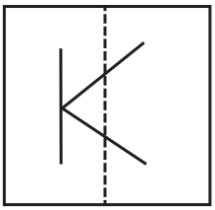
The only vehicle parked between S and R is V: Yes,

At the very end is where car P is parked: Yes,

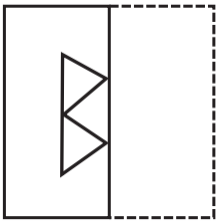
Q and R do not share a parking space: Yes,

Two automobiles are parked between Q and V. False

3. Explanation:



After folding it through the dotted line it'll look like



4. Explanation:

Method 1.

Solution:

The correct option is A

72

Total distance $= x$

(Onward journey) $S_1 = 60\ \mathrm{km/h}$

(Return journey) $S_2 = 90\ km/h$

$$Average\ Speed = \frac{Total\ Distance}{Total\ Time}$$

$$= \frac{x + x}{\frac{x}{60} + \frac{x}{90}} = \frac{2x}{x\left[\frac{3+2}{90 \times 2}\right]}$$

$$= \frac{2 \times 90 \times 2}{5} = 72\ \mathrm{km/h}$$

OR

Method 2.

If the same distance is covered by two different speeds V_1 and V_2 then the average speed is given by

$$V_{\text{arg}} = \frac{v_1 V_1}{V_1 + v_2}$$

In the question, $V_1 = 60\ \mathrm{km/h}, V_2 = 90\ \mathrm{km/h}$

$$V_{\text{arg}} = \frac{2 \times 90 \times 60}{90 + 60} = 72\ \mathrm{km/h}$$

5. Explanation:

Detailed Solution

(i) A cuboid with dimensions $10\ \text{cm}, 8\ \text{cm}$ and $6\ \text{cm}$

Volume of cuboid $= 1\text{bh} = 10\ \text{cm} \times 8\ \text{cm} \times 6\ \text{cm} = 480\ \text{cm}^3$

(ii) A cube of side $8\ \text{cm}$

Volume of cube $= a^3 = 8^3 = 512\ \text{cm}^3$

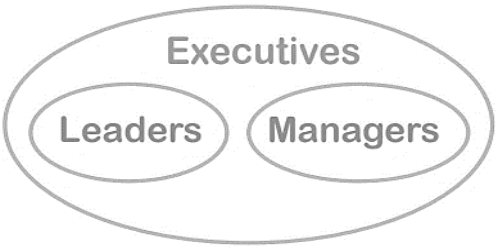
(iii) A cylinder with base radius $7\ \text{cm}$ and height $7\ \text{cm}$

Volume of cylinder $= \pi r^2\ \text{h} = \pi \times 7^2 \times 7 = 1078\ \text{cm}^3$

(iv) A sphere of radius $7\ \text{cm}$

Volume of sphere $= \frac{4}{3}\pi r^3 = \frac{4}{3} \times \pi \times 7^3 = 1437.33\ \text{cm}^3$

6. Explanation:



Therefore, the concluding diagram can be: Manager can be executive also. Some executives are also leaders that are not a manager.

7. Explanation:

Detailed Solution

The expression "fish out of water" describes someone who is uneasy in a particular, foreign circumstance.

The boy in the provided sentence might be described using this.

The other choices include meaningless and absurd phrases.

Option 3 is therefore accurate.

8. Explanation:

We must take into account the minimal number of students in each subject in order to determine the maximum number of students who have taken all three subjects.

We are aware of:

One hundred students have completed M600.

C600 has been taken by 200 students.

Sixty students have completed E600.

Assume for the moment that each of these students has also taken the other two subjects. In this instance, the total number of students enrolled in each course would equal the highest number of students that could take all three subjects, which is:

100 (M600) + 200 (C600) + 60 (E600) = 360 students

Nevertheless, this figure exceeds the whole enrollment of the course, which stands at 300. Therefore, we must determine the largest number of students that can enrol in all three disciplines without going above the 300-person maximum.

Let's deduct the total number of pupils from the highest number we determined in order to do this:

300 (total students) - 360 (maximum students taking all three subjects) = 60 students

Let us now attempt to comprehend that the maximum number of pupils in each of the three common sections can only be reached if all of these additional numbers originate from the middle.

In other words, students who select multiple disciplines ought to enroll in all three.

As a result, each student enrolled in all three disciplines ought to be tallied three times. As a result, every student will receive two extra counts.

Let us assume that there are x pupils.

Then the extra will be $2x$

Again this $2x = 60$

$\Rightarrow X = 30$

9. Explanation:

Tanya is older than Eric.

$$T > E$$

Cliff is older than Tanya.

$$C > T$$

Eric is older than Cliff:

$$E > C$$

If $\text{T} > \text{E}$ and $\text{C} > \text{T}$ then $\text{C} > \text{T} > \text{E} \Rightarrow \text{E} < \text{C}$

So if the first two statements are true, then the third statement is false,

Also,

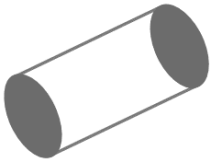
If $T > E$ and $E > C$ then $T > E > C \Rightarrow C < T$

If $C > T$ and $E > C$ then $E > C > T \Rightarrow T < E$

10. Explanation:

Regarding option (1): This shadow can be obtained if the cylinder is maintained vertically.

Option 2: This shadow can be obtained if the cylinder is tilted.



For option (3), this shadow can be obtained if the cylinder is maintained horizontally.

Option 4: The shadow cannot be obtained with a cylinder.

Therefore, choice (4) is the right response.