BYJU'S EXAM PREP

GATE 2015

Civil Engineering

General Aptitude (Question with Solution Set-1 & 2)

Set-1

1. Select the pair that does not express a relationship similar to that expressed in the pair:

Children: Paediatricians

A. Adult: Orthopaedist

B. Females: Gynaecologist

C. Kidney: Nephrologist

D. None of these

Ans. B

Sol. Here pediatrician: children represent a particular community of ppl viz.children

So among the following option B is correct and option A is eliminated coz here bone specialists is specified whereas pediatrician represents overall health concern of children.

2. Extreme focus on syllabus and studying for test has become such a dominant concern of Indian students that this has closed their minds to anything _____ to the requirements of the exam

A. related B. extraneous

C. outside D. useful

Ans. B

Sol. extraneous -irrelevant or unrelated to the subject being dealt with.

3. If ROAD is written as URDG, then SWAN should be written as:

A. VXDQ B. VZDQ

C. VZDP D. UXDQ

Ans. B

Sol. R+3=U, O+3=R, A+3=D, D+3=G;

S+3=V, W+3=Z, A+3=D, N+3=Q

4. The Tamil version of _____ John Abraham-starrer Madras Café _____ cleared by the censor board with no cuts last week, but the film's distributors _____ no takers among the exhibitors for a release in Tamil Nadu _____ this Friday.

A. Mr., was, found, on

B. a, was found, at

C. the, was, found, on

D. a, being, find, at

Ans. C

Sol. John-Abraham starrer Madras Café talks about the movie not the person, so Mr. is ruled out.

'Find no takers' is not the correct phrase. At this Friday is incorrect. So, option C is correct.

5. A function f(x) is linear and has a value of 29 at x = -2 and 39 at x = 3. Find its value at x = 5

A. 59 B. 45

C. 43 D. 35

Ans. C

Sol. Assume f(x) = aX + b

so, -2a+b = 29.....(1)

3a+b = 39.....(2)

By solving equation 1 & 2, we get

a = 2 & b = 33

f(x) = 2x+33

⇒f(5) = 43

6. The head of a newly formed government desires to appoint five of the six selected members P, Q, R, S, T and U to portfolios of Home, Power, Defence, Telecom and Finance. U does not want any portfolio if S gets one of the five. R wants either Home or Finance or no portfolio. Q says that if S gets either Power or Telecom, then she must get the other one. T insists on a portfolio(any) if P gets one.

Which is the valid distribution of portfolio?

A. P-Home, Q-Power, R- Defence, S-Telecom, T-Finance

B. R-Home, S-Power, P- Defence, Q-Telecom, T-Finance

C. P-Home, Q-Power, T- Defence, S-Telecom, U-Finance

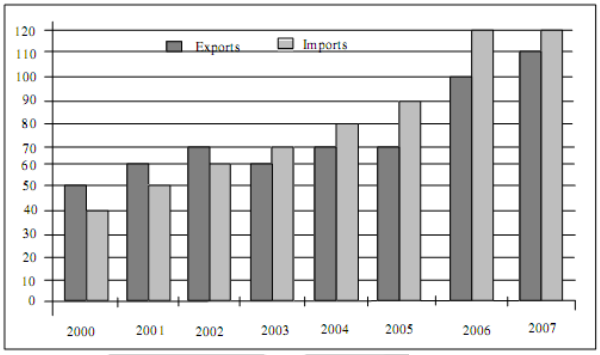
D. Q-Home, U-Power, T- Defence, R-Telecom, P-Finance

Ans. B

Sol. Since U does not want any portfolio, (C) and (D) are ruled out.

R wants Home, or Finance or No portfolio, (A) is not valid. Hence option (B) is correct

7. The exports and imports (in crores of Rs.) of a country from the year 2000 to 2007 are given in the following bar chart. In which year is the combined percentage increase in imports and exports the highest?



A. 2007 B. 2003

C. 2004 D. 2006

Ans. D

Sol. Just observe the bar chart, here %increase is asked, so just check for previous year & next year pair, where you can find maximum positive change.

Increase in exports in

$$2006 = \frac{100-70}{70} = 42.8\%$$

Increase in imports in

$$2006 = \frac{120-90}{90} = 33.3\%$$

Which is more than any other year

8. Most experts feel that in spite of possessing all the technical skills required to be a batsman of the highest order., he is unlikely to be so due to lack of requisite temperament. He was guilty of throwing away his wicket several times after working hard to lay a strong foundation. His critics pointed out that until he addressed to this problem, success at the highest level will continue to elude him.

Which of the statement (s) below is/are logically valid and can be inferred from the above passage?

(i) He was already a successful batsman at the highest level

(ii) He has to improve his temperament in order to become a great batsman

(iii) He failed to make many of his good starts count

(iv) Improving his technical skills will guarantee success

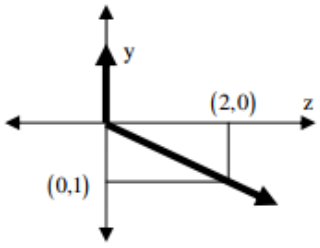
A. (iii) and (iv) B. (ii) and (iii)

C. (i), (ii) and (iii) D. (ii) only

Ans. B

Sol.

9. Choose the most appropriate equation for the function drawn as a thick line, in the plot below.



A. $z = y - |y|$ B. $z = -(y - |y|)$

C. $z = (y + |y|)$ D. $z = -(y + |y|)$

Ans. B

Sol. As from the graph we can write

y=0 at x=0

y=-1 at x=2

Option B works out to be correct when we substitute the values in all the four options.

10. Alexander turned his attention towards India since he had conquered Persia.

Which one of the statements below is logically valid and can be inferred from the above sentence?

A. Alexander would not have turned his attention towards India had he not conquered Persia.

B. Alexander was not ready to rest on his laurels, and wanted to march to India

C. Alexander was completely in control of his army and could command it to move towards India.

D. Since Alexander's kingdom extended to Indian borders after the conquest of Persia, he was keen to move further.

Ans. A

Sol. The answer should be A as other options required more information

Set-2

1. Choose the most appropriate word from the options given below to complete the following sentence.

The official answered ___ that the complaints of the citizen would be looked into.

A. respectably B. respectfully

C. reputably D. respectively

Ans. B

Sol. The official answered **respectfully** that the complaints of the citizen would be looked into.

2. Choose the statement where underlined word is used correctly

A. The minister insured the victims that everything would be all right.

B. He ensured that the company will not have to bear any loss.

C. The actor got himself ensured against any accident.

D. The teacher insured students of good results

Ans. B

Sol. insured-the person, group, or organization whose life or property is covered by an insurance policy.

ensured- to secure or guarantee

3. Four cards are randomly selected from a pack of 52 cards. If the first two cards are kings, what is the probability that the third card is a king?

A. 4/52

B. 2/50

C. 1/52 × (1/52)

D. 1/52 × (1/52) × (1/50)

Ans. B

Sol. There are 4 kings in a pack of 52 cards.

If 2 cards are selected and both are kings, remaining cards will be 50 out of which 2 will be kings.

4. Which word is not a synonym for the word vernacular?

A. regional B. indigeneous

C. indigent D. colloquial

Ans. C

Sol. vernacular- expressed or written in the native language of a place. indigent -deficient in what is requisite

5. Mr. Vivek walks 6 meters North-East, then turns and walks 6 meters South- East, both at 60 degrees to East. He further moves 2 meters South and 4 meters West. What is the straight distance in meters between the point he started from and the point he finally reached?

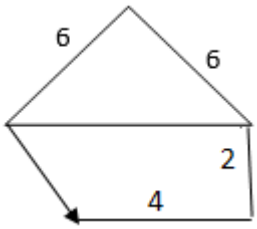
A. $2\sqrt{2}$ B. 2

C. $\sqrt{2}$ D. $1/\sqrt{2}$

Ans. A

Sol. The distance between initial & Final Point is given as

$\sqrt{2^2+2^2} = 2\sqrt{6}$



6. How many four digit numbers can be formed with the 10 digits 0, 1, 2, ... 9 if no number can start with 0 and if repetitions are not allowed?

A. 2345 B. 2453

C. 4536 D. 1234

Ans. C

Sol. In thousands place, 9 digits except 0 can be placed

In hundreds place, 9 digits can be placed (including 0, excluding the one used in thousands place)

In tens place, 8 digits can be placed (excluding the ones used in thousands and hundreds place)

In ones place, 7 digits can be placed (excluding the one used in thousands, hundreds and tens place)

Total number of combinations

$= 9\times9\times8\times7 = 4536$

7. The word similar in meaning to 'dreary' is

A. cheerful B. dreamy

C. hard D. dismal

Ans. D

Sol. dreary- depressingly dull and bleak or repetitive.

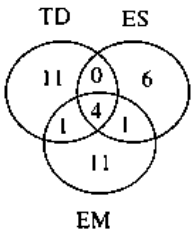
8. There are 16 teachers who can teach Thermodynamics (TD), 11 who can teach Electrical Sciences (ES), and 5 who can teach both TD and Engineering Mechanics (EM). There are a total of 40 teachers, 6 cannot teach any of the three subjects, i.e. EM, ES or TD. 6 can teach only ES. 4 can teach all three subjects, i.e. EM, ES and TD. 4 can teach ES and TD. How many can teach both ES and EM but not TD?

A. 1 B. 2

C. 3 D. 4

Ans. A

Sol.



9. Read the following table giving sales data of five types of batteries for years 2006 to 2012

Year	Type I	Type II	Type III	Type IV	Type V
2006	75	144	114	102	108
2007	90	126	102	84	126
2008	96	114	75	105	135
2009	105	90	150	90	75
2010	90	75	135	75	90
2011	105	60	165	45	120
2012	115	85	160	100	145

Out of the following, which type of battery achieved highest growth between the years 2006 and 2012?

A. Type V B. Type III

C. Type II D. Type I

Ans. D

Sol. Type-I achieved a growth of 53% (75 to 115 units)in this period which is higher than any other type of battery

10. The given question is followed by two statements: select the most appropriate option that solves the question

Capacity of a solution tank A is 70% of the capacity of tank B. How many gallons of solution are in tank A and tank B?

Statements:

I. Tank A is 80% full and tank B is 40% full

II. Tank A if full contains 14,000 gallons of solution

A. Statement I alone is sufficient

B. Statement II alone is sufficient

C. Either statement I or II alone is sufficient

D. Both the statements I and II together are sufficient

Ans. D

Sol. Statement I can be used to solve the question if capacity of both tanks is already known

Statement-II can be used if it is known what quantity of each tank is full/empty.

Therefore, by using both statements

Let capacity of tank B is x

$\frac{70}{100}x = 14000$

$= x = 20000$ gallons

Solution in tank

$A = \frac{80}{100} \times 14000 = 11200$ gallons

Solution in tank

$A = \frac{40}{100} \times 20000 = 8000$ gallons

$\therefore$ Total solution $= 11200 + 8000 = 19200$ gallons

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