DE Shaw Previous Placement Paper

DE Shaw Aptitude Test

1.   From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

A.   1/15
B.   25/57
C.   35/256
D.   1/221

Explanation:

Let S be the sample space.

Then, n(S) = 52C2 = (52 x 51)/(2x1) = 1326.

Let E = event of getting 2 kings out of 4.

=> n(E) = 4C2 = (4 x 3)/ (2 x 1) = 6.

=> P(E) =n(E)/n(S) =6/1326 = 1/221.

2.   What is the difference between the compound interests on Rs. 5000 for 1 years at 4% per annum compounded yearly and half-yearly?

A.   Rs. 2.04
B.   Rs. 3.06
C.   Rs. 4.80
D.   Rs. 8.30

Explanation:

C.I. when interest compounded yearly

= Rs. [5000 x (1 + 4/100) x {1 + (1/2 x 4)/ 100}]

= Rs. 5000 x 26/25 x 51/50

= Rs. 5304.

and, C.I. when interest is compounded half-yearly

= Rs.5000 x (1 + 2 /100) ^3.

= Rs. 5000 x 51/50 x 51/50 x 51/50.

= Rs. 5306.04

The required Difference = Rs. (5306.04 - 5304) = Rs. 2.04.

3.   A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is?

A.   1/10
B.   1/4
C.   7/15
D.   8/15

Explanation:

A can do a work in 15 days and B in 20 days.

A's 1 day's work = 1/15.

B's 1 day's work = 1/20.

(A+B)'s 1 day's work = (1/15 + 1/20) = 7/60.
(A+B)'s 4 day's work= (7/60 × 4) = 7/15.
Remaining work= (1-7/15) = 8/15.

4.   Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. What are the marks obtained by them?
A.   42, 33
B.   44, 36
C.   43, 36
D.   42, 36
Explanation:
Let the marks secured by them be x and (x + 9) respectively.
Then, sum of their marks = x + (x + 9) = 2x + 9
Given, (x + 9) was 56% of the sum of their marks.
=> (x+9) = 56/100(2x+9).
=> (x+9) = 14/25(2x+9).
=> 25x + 225 = 28x + 126.
=> 3x = 99.
=> x = 33.
Then, (x + 9) = 33 + 9 = 42
Hence, their marks are 33 and 42.

5.   A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is:
A.   400 kg
B.   560 kg
C.   600 kg
D.   640 kg
Explanation:
By the rule of allegation, we have:
Profit on 1st part Profit on 2nd part
8% 18%
\ /
Mean Profit
14%
/ \
4 6
Ratio of 1st and 2nd parts = 4 : 6 = 2 : 3.
Quantity of 2nd kind = (3/5) x 1000 kg = 600 kg.

6.   The ratio between the perimeter and the breadth of a rectangle is 5: 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle?
A.   16 cm
B.   18 cm
C.   24 cm

DE Shaw Previous Placement Paper

D.   Data inadequate
Explanation:
According to the question,
=> 2(l + b)/b = 5/1
=> 2l + 2b = 5b
=> 3b = 2l
=> b = (2/3) l
Given, Area = 216 cm2
So, l x b = 216
=> l x (2/3) l = 216.
=> l^2 = 324
=> l = 18 cm.

7.   If log (base 10) 5 + log (base 10) (5x + 1) = log (base 10) (x + 5) + 1, then x is equal to:
A.   1
B.   3
C.   5
D.   10
Explanation:
Given,
=> log(base 10) 5 + log(base 10)(5x + 1) = log(base 10)(x + 5) + 1
=> log(base 10) 5 + log(base 10)(5x + 1) = log(base 10)(x + 5) + log(base 10) 10
=> log(base 10)[5 (5x + 1)] = log(base 10) [10(x + 5)]
=> 5(5x + 1) = 10(x + 5)
=> 5x + 1 = 2x + 10
=> 3x = 9
=> x = 3.

8.   A shopkeeper allows a discount of 10% on the marked price and still gains 17% on the whole. Find at what percent above the cost price did he mark his goods.
A.   30%
B.   25%
C.   15%
D.   45%
Explanation:
Let the cost price be 100. Then SP = 117.
Let the marked price be x.
So, 90% of x = 117
=> x = 130.
Therefore, he marked his goods 30% above the cost price.

9.   A train traveling at 72 kmph crosses a platform in 30 seconds and a man standing on the platform in 18 seconds. What is the length of the platform in meters?
A.   240 meters
B.   360 meters

C.   420 meters

D.   600 meters

Explanation:

Length of the platform = speed of train * extra time taken to cross the platform.

Length of platform = 72 kmph * 12 seconds.

.'. 72 kmph = 5/18 x 72 = 20 m/sec.

Therefore, length of the platform = 20 m/s * 12 sec = 240 meters.

DE Shaw Logical Reasoning Test

10.   Syllogism:

All beans are pulses

All pulses are crops

No crop is a seed

CONCLUSIONS

(I) No seed is a bean

(II) No bean is a pulse.

A.   Both conclusion I and II follow

B.   Neither Conclusion I nor Conclusion II follows

C.   Only Conclusion I follows

D.   Either Conclusion I or Conclusion II follows

E.   Only Conclusion II follows

Answer: C.

11.   Statements: -

Some apples are orange.

Some orange are pineapples.

Some pineapples are not coconuts.

Some coconuts are black forests.

Conclusions: -

(I) Some orange being black forests is a possibility.

(II) Some pineapples being coconuts is a possibility.

A.   Both conclusion I and II follow

B.   Neither Conclusion I nor Conclusion II follows

C.   Only Conclusion I follows

D.   Either Conclusion I or Conclusion II follows

E.   Only Conclusion II follows

Answer: E.

12.   Blood Relation:

Pointing to a man in a photograph. Asha said. "His mother's only daughter is my mother." How is Asha related to that man?

A.   Nephew
B.   Sister
C.   Wife
D.   Niece
Explanation:
Asha's mother's mother is man's mother i.e. Asha's mother is man's sister or Asita is man's niece.

13.   Directions & Distances: -
From his house, Lokesh went 15 kms to the North. Then he turned West and covered 10 kms. Then he turned South and covered 5 kms. Finally, turning to East, he covered 10 kms. In which direction is he from his house?
A.   East
B.   North
C.   West
D.   South
Answer: B.

14.   Ordering & Ranking: -
Manisha ranked sixteenth from the top and twenty ninth from the bottom among those who passed an examination. Six boys did not participate in the competition and five failed in it. How many boys were there in the class?
A.   40
B.   44
C.   50
D.   55
E.   58
Explanation:
Number of boys who passed = (15 + 1 + 28) = 44.
.'. Total number of boys in the class = 44 + 6 + 5 = 55.

15.   Ordering & Ranking: -
Manoj and Sachin are ranked seventh and eleventh respectively from the top in a class of 31 students. What will be their respective ranks from the bottom in the class?
A.   20th and 24th
B.   24th and 20th
C.   25th and 21st
D.   26th and 22nd
E.   None of these
Explanation:
Number of students behind Manoj in rank = (31 - 7) = 24. So, Manoj is 25th from the bottom.
Number of students behind Sachin in rank = (31 - 11) = 20. So, Sachin is 21st from the bottom.

16.   Clocks & Calendars:
On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004?
A.   Tuesday

B.   Monday
C.   Sunday
D.   Wednesday
Explanation:
The year 2004 is a leap year. It has 2 odd days. The day on 8th Feb, 2004 is 2 days before the day on 8th Feb, 2005.
Hence, this day is Sunday.

17.   Choose or find odd letter group
VT, MQ, PR, DF, FG
A.   VT
B.   MQ
C.   PR
D.   DF
E.   FG
Explanation:
Putting A = 1, B = 2, ... and so on, we have:
VT = V + T = 22 + 20 = 42 (even);
MQ = M + Q = 13 + 17 = 30 (even);
PR = P + R = 16 + 18 =34 (even);
DF = D + F = 4 + 6 = 10 (even);
FG = F + G = 6 + 7 = 13 (odd).

18.   Coding-Decoding:
In a certain code 'INACTIVE' is written as VITCANIE. How is 'COMPUTER' written in that code?
A.   UTEPMOCR
B.   MOCPETUR
C.   ETUPMOCR
D.   PMOCRETU
Explanation:
There are 8 letters in the word. In the given code the fourth and the eighth letters from left have been left intact.
The first letter exchanges position with the seventh letter, the second letter with the sixth letter and the third with the fifth letter

19.   Data Sufficiency:
Vipin's and Javed's salaries are in the proportion of 4: 3 respectively. What is Vipin's salary?
(I) Javed's salary is 75% that of Vipin's salary.
(II) Javed's salary is Rs 4500.
A.   If the data in statement I alone are sufficient to answer the question
B.   If the data in statement II alone are sufficient answer the question
C.   If the data either in I or II alone are sufficient to answer the question;
D.   If the data even in both the statements together are not sufficient to answer the question
Explanation:
Statement I is merely an interpretation of the information contained in the question

DE Shaw Previous Placement Paper

However, Vipin's salary can be determined from statement II as follows
Let Vipin's and Javed's salaries be 4x and ax respectively.
Then, 3x = 4500 or x = 1500 Vipin's salary = 4x = Rs 6000.
Thus, II alone is sufficient.

20.   Coded Inequalities:
Statements: R $ M, M%H, H$F
Conclusions:
(I) R % F
(II) M$F
A.   If only conclusion I is true.
B.   If only conclusion II is true.
C.   If either conclusion I or II is true.
D.   If neither conclusion I nor II is true.
E.   If both conclusions I and II are true
Explanation:
R ≤ M < H ≤ F. Hence, R< F. Conclusion I is true.
As M< F, conclusion II is not true.

DE Shaw Verbal Ability Test

21.   Fill in the blank:
She has an aversion _____ taking even onion and garlic.
A.   with
B.   at
C.   against
D.   to
Answer: D.

22.   Synonym:
ASCRIBE
A.   Blame
B.   Charge
C.   Bestow
D.   Impute
Answer: D.

23.   Antonym:
VIRTUOUS
A.   Wicked
B.   Corrupt
C.   Vicious
D.   Scandalous

DE Shaw Previous Placement Paper

Answer: A.

24.   One Word Substitution:
One who knows everything
A.   Literate
B.   Scholar
C.   Omnipotent
D.   Omniscient
Answer: D.

25.   Analogy:
COBBLER: SHOE
A.   contractor: building
B.   mason: stone
C.   jockey: horse
D.   potter: paint
Answer: A.

26.   Direct & Indirect Speech:
Tom said, 'I want to visit my friends this weekend'.
A.   Tom said he wants to visit his friends that weekend.
B.   Tom said he wanted to visit his friends that weekend.
C.   Tom said he wanted to visit his friends this weekend.
D.   Tom told that he wanted to visit his friends this weekend
Answer: B.

27.   Active & Passive Voice:
The police caught the culprit.
A.   The police caught the culprit.
B.   The culprit were caught be the police.
C.   The culprit was caught be the police.
D.   The culprit caught be the police.
E.   The culprit had caught be the police
Answer: B.

28.   Para Jumbles:
S1: In India marriages are usually arranged by parents.
S6: She felt she was a modern girl and not a subject for bargaining.
P: Sometimes girls and boys do not like the idea of arranged marriages.
Q: Most young people accept this state of affairs.
R: Shanta was like that.
S: They assume their parents can make good choices.
The proper sequence should be:
A.   S P R Q
B.   P S R Q

DE Shaw Previous Placement Paper

C.   Q S P R
D.   R Q P S
E.   None of these
Answer: C.

29.   Error Spotting:
Even after worked in the office (1)/ for as many as fifteen years. (2)/ he still does not understand (3)/ the basic objectives of the work. (4)/ No error (5).
A.   1
B.   2
C.   3
D.   4
Explanation:
Replace with "Even after having worked in the office".

30.   Error Spotting:
I would ask him (1) / to leave our house (2) / immediately (3) if my father should not have been at home. (4) / No error (5)
A.   1
B.   2
C.   3
D.   4
Explanation:
It should be: if my father were not at home. This is an example of the type 2 conditional sentence. Here we use would + infinitive in the main clause and simple past in the if-clause.

ly we