

1. The price of 2 sarees and 4 shirts is Rs. 1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much shall he have to pay ?

- a) Rs. 1200
- b) Rs. 2400
- c) Rs. 4800
- d) Cannot be determined

Ans:2

Exp:

2. If  $\log_{10} 2 = 0.3010$ , then  $\log_2 10$  is equal to:

- a)  $\frac{699}{301}$
- b)  $\frac{1000}{301}$
- c) 0.3010
- d) 0.6990

Ans:2

Exp:

3. What decimal of an hour is a second ?

- a).0025
- b).0256
- c).00027
- d).000126

Ans:3

Exp:

4. Two ships are sailing in the sea on the two sides of a lighthouse. The angle of elevation of the top of the lighthouse is observed from the ships are  $30^\circ$  and  $45^\circ$  respectively. If the lighthouse is 100 m high, the distance between the two ships is:

- a)173m
- b)200m
- c)273m
- d)300m

Ans:3

Exp:

5. Find out the wrong number in the given sequence of numbers.

1, 2, 6, 15, 31, 56, 91

- a)31
- b)91
- c)56
- d)15

Ans:2

Exp:

6. Find out the wrong number in the given sequence of numbers.

56, 72, 90, 110, 132, 150

- a)72

b)110

c)132

d)150

Ans:4

Exp:

7. 125, 127, 130, 135, 142, 153, 165

a)130

b)142

c)153

d)165

Ans:4

Exp:

8. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

a)2:5

b)3:5

c)4:5

d)6:7

Ans:3

Exp:

9. How many times do the hands of a clock coincide in a day?

a)20

b)21

c)22

d)24

Ans:3

Exp:

10. In a 200 metres race A beats B by 35 m or 7 seconds. A's time over the course is:

a)40 sec

b)47 sec

c)33 sec

d) None of these

Ans:3

Exp:

11.

$$\frac{1}{1 + x^{(b-a)} + x^{(c-a)}} + \frac{1}{1 + x^{(a-b)} + x^{(c-b)}} + \frac{1}{1 + x^{(b-c)} + x^{(a-c)}} = ?$$

a)0

b)1

c)  $x^{a-b-c}$

d) None of these

Ans:2

Exp:

12. On what dates of April, 2001 did Wednesday fall?

- a) 1<sup>st</sup>, 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup>, 29<sup>th</sup>
- b) 2<sup>nd</sup>, 9<sup>th</sup>, 16<sup>th</sup>, 23<sup>rd</sup>, 30<sup>th</sup>
- c) 3<sup>rd</sup>, 10<sup>th</sup>, 17<sup>th</sup>, 24<sup>th</sup>
- d) 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>, 25<sup>th</sup>

Ans:4

Exp:

13. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?

- a)564
- b)645
- c)735
- d)756

Ans:4

Exp:

14. In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. The duration of the flight is:

- a) 1 hour
- b) 2 hours
- c) 3 hours
- d) 4 hours

Ans:1

Exp:

15. The greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively, is:

- a)123
- b)127
- c)235
- d)305

Ans:2

Exp:

16. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.

- a)4
- b)7
- c)9
- d)13

Ans:1

Exp:

17. A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is:

- a) Rs. 1425

- b) Rs. 1500
- c) Rs. 1537.50
- d) Rs. 1576

Ans:2

Exp:

18. A 300 metre long train crosses a platform in 39 seconds while it crosses a signal pole in 18 seconds. What is the length of the platform?

- a) 320 m
- b) 350 m
- c) 650 m
- d) Data inadequate

Ans:2

Exp:

19. Look carefully at the sequence of symbols to find the pattern. Select correct pattern.



- a)B
- b)C
- c)D
- d)A

Ans:3

Exp:

20. Look carefully at the sequence of symbols to find the pattern. Select correct pattern.



- a)B
- b)C
- c)D
- d)A

Ans:4

Exp:

21. Each question has an underlined word followed by four answer choices. You will choose the word that is a necessary part of the underlined word.

diploma

- a) principal
- b) curriculum
- c) employment
- d) graduation

Ans:4

Exp:

22. Every one of the following questions consists of a related pair of words, followed by five pairs of words. Choose the pair that best represents a similar relationship to the one expressed in the original pair of words.

DIVISION : SECTION

- a) layer : tier
- b) tether : bundle
- c) chapter : verse
- d) riser : stage

Ans:1

Exp:

23. Each problem consists of three statements. Based on the first two statements, the third statement may be true, false, or uncertain.

Joe is younger than Kathy.

Mark was born after Joe.

Kathy is older than Mark.

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

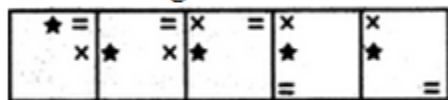
- a) true
- b) false
- c) uncertain
- d)None of these

Ans:1

Exp:

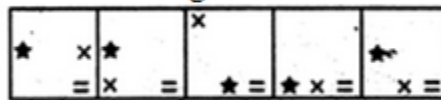
24. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

Problem Figures:



(A) (B) (C) (D) (E)

Answer Figures:



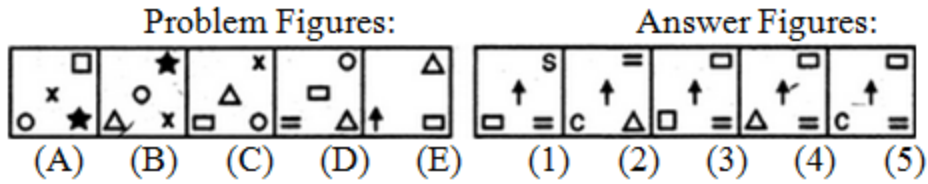
(1) (2) (3) (4) (5)

- a)5
- b)4
- c)1
- d)2

Ans:1

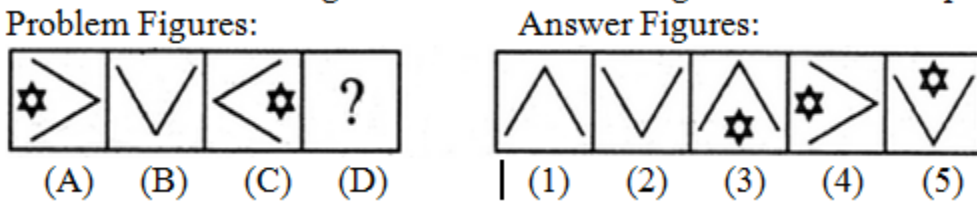
Exp:

25. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.



- a)5
  - b)4
  - c)3
  - d)2
- Ans:1  
Exp:

26. Select a suitable figure from the Answer Figures that would replace the question mark (?).



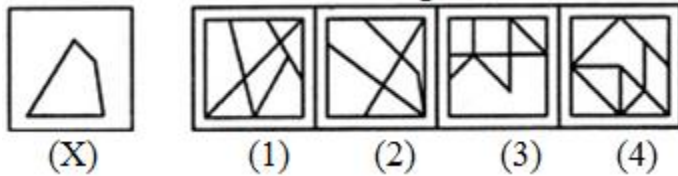
- a)1
  - b)2
  - c)3
  - d)4
- Ans:1  
Exp:

27. Choose the figure which is different from the rest.



- a)1
  - b)2
  - c)3
  - d)4
- Ans:4  
Exp:

28. Find out the alternative figure which contains figure (X) as its part.



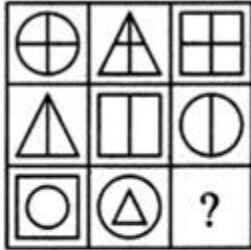
- a)1
- b)2
- c)3

d)4

Ans:2

Exp:

29. Select a suitable figure from the four alternatives that would complete the figure matrix.



(1) (2) (3) (4)

a)1

b)2

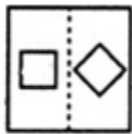
c)3

d)4

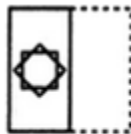
Ans:3

Exp:

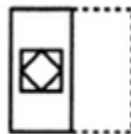
30. Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



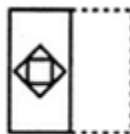
(X)



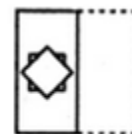
(1)



(2)



(3)



(4)

a)1

b)2

c)3

d)4

Ans:1

Exp:

31. Identify the given image



a) Golconda fort

b) Taramati Baradari

- c) Salar Jung Museum
- d) Napier Museum

Ans:1

Exp:

32. Identify the given image

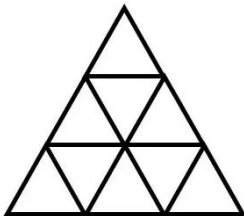


- a) Imperial Tower 1, Mumbai
- b) Taramati Baradari
- c) Salar Jung Museum
- d) Chhatrapati Shivaji Terminus,

Ans:4

Exp:

33. "Number of triangles" in a given triangle problem?



- a)78
- b)48
- c)27
- d)13

Ans:4

Exp:

34. Statements: All the harmoniums are instruments. All the instruments are flutes.

Conclusions:

All the flutes are instruments.

All the harmoniums are flutes.

- a) Only (1) conclusion follows
- b) Only (2) conclusion follows
- c) Either (1) or (2) follows
- d) Neither (1) nor (2) follows

Ans:2

Exp:

35. Which of the following diagrams indicates the best relation between Bulb, Lamp and Light ?





- a)D
- b)C
- c)B
- d)A

Ans:3

Exp:

36. Pointing to Varman, Madhav said, "I am the only son of one of the sons of his father." How is Varman related to Madhav?

- a) Nephew
- b) Uncle
- c) Father or Uncle
- d) Father

Ans:3

Exp:

37. Choose the alternative which is closely resembles the mirror image of the given combination.

**ANS43Q12**

- (1) AN243Q12      (2) 2 1Q342NA
- (3) 2NA34Q21      (4) 1 2Q43AN2

- a)1
- b)2
- c)3
- d)4

Ans:2

Exp:

38. Choose the alternative which is closely resembles the mirror image of the given combination.

**MALAYALAM**

- (1) MALAYALAM      (2) MAJAYAJAM
- (3) MΛYAYΛM      (4) MΛYAYΛM

- a)1
- b)2
- c)3
- d)4

Ans:2

Exp:

39. Choose the alternative which is closely resembles the water-image of the given combination.

**NUCLEAR**

- (1) RAEUCN      (2) IUCTEVR
- (3) IUCLEVR      (4) IUCLEVR

- a)1
- b)2
- c)3
- d)4

Ans:4

Exp:

40. Choose the alternative which is closely resembles the water-image of the given combination.

**bridge**

- (1) p r i q d e      (2) p l i q d e
- (3) p r i q d e      (4) p l i p d e

- a)1
- b)2
- c)3
- d)4

Ans:2

Exp:

41. The negation of the statement “72 is divisible by 2 and 3” is

- a) 72 is not divisible by 2 or 72 is not divisible by 3
- b) 72 is divisible by 2 or 72 is divisible by 3
- c) 72 is divisible by 2 and 72 is divisible by 3
- d) 72 is not divisible by 2 and 3

Ans:1

Exp:

42.  $\int \frac{1}{\sqrt{3-6x-9x^2}} dx$  is equal to

- a)  $\sin^{-1}\left(\frac{3x+1}{2}\right) + c$
- b)  $\sin^{-1}\left(\frac{3x+1}{6}\right) + c$
- c)  $\frac{1}{3} \sin^{-1}\left(\frac{3x+1}{2}\right) + c$
- d)  $\sin^{-1}\left(\frac{2x+1}{3}\right) + c$

Ans:3

Exp:

If a, b, c and three consecutive terms of an AP and x, y, z are three consecutive terms of GP, then the value

of  $x^{b-c}, y^{c-a}, z^{a-b}$  is

43.

a)0

b)xyz

c)-1

d)1

Ans:4

Exp:

The value of  $\lim_{x \rightarrow 0} \frac{|x|}{x}$  is

44.

a)1

b)-1

c)0

d)Does not exist

Ans:4

Exp:

Let  $f(x) = x - \frac{1}{x}$  then  $f'(-1)$  is

45.

a)0

b)2

c)1

d)-2

Ans:2

Exp:

The probability of happening of an event A is 0.5 and that of B is 0.3. If A and B are mutually exclusive events, then the probability of neither A nor B is

46.

a)0.4

b)0.5

c)0.2

d)0.9

Ans:3

Exp:

If A and B are mutually exclusive events, given that

$$P(A) = \frac{3}{5}, P(B) = \frac{1}{5}, \text{ then } P(A \text{ or } B) \text{ is}$$

47.

a)0.8

b)0.6

c)0.4

d)0.2

Ans:1

Exp:

Let  $f, g : \mathbb{R} \rightarrow \mathbb{R}$  be two functions defined as

$$f(x) = |x| + x \text{ and } g(x) = |x| - x \forall x \in \mathbb{R}. \text{ The (fog)}$$

48.  $(x)$  for  $x < 0$  is

a)0

b)4x

c)-4x

d)2x

Ans:3

Exp:

A is set having 6 distinct elements. The number of distinct functions from A to A which are not bijections

49. is

a)  $6! - 6$

b)  $6^6 - 6$

c)  $6^6 - 6!$

d)  $6!$

Ans:3

Exp:

Let  $f : \mathbb{R} \rightarrow \mathbb{R}$  defined by

$$f(x) = \begin{cases} 2x & ; \quad x > 3 \\ x^2 & ; \quad 1 < x \leq 3 \\ 3x & ; \quad x \leq 1 \end{cases}$$

Then  $f(-1) + f(2) + f(4)$  is

50.

a) 9

b) 14

c) 5

d) 10

Ans: 1

Exp:

If  $\sin^{-1} x + \cos^{-1} y = \frac{2\pi}{5}$ , then  $\cos^{-1} x + \sin^{-1} y$  is

51.

$$\frac{2\pi}{5}$$

a)

$$\frac{3\pi}{5}$$

b)

$$\frac{4\pi}{5}$$

c)

$$\frac{3\pi}{10}$$

d)

$$10$$

Ans: 2

Exp:

If  $A = \begin{bmatrix} 2 & -2 \\ -2 & 2 \end{bmatrix}$ , then  $A^n = 2^k A$ , where  $k =$

52.

a)  $2^{n-1}$

b)  $n + 1$

c)  $n - 1$

$$2(n - 1)$$

d)

Ans:4

Exp:

$$\text{If } \begin{bmatrix} 1 & 1 \\ -1 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2 \\ 4 \end{bmatrix}, \text{ then the values of } x \text{ and } y$$

53. respectively are

a)-3,-1

b)1,3

c)3,1

d)-1,3

Ans:4

Exp:

$$\text{If } A = \begin{bmatrix} \cos \alpha & \sin \alpha \\ -\sin \alpha & \cos \alpha \end{bmatrix}, \text{ then } AA' =$$

54.

a)A'

b)Zero Matrix

c)A

d)I

Ans:4

Exp:

$$\text{If } f(x) = \begin{cases} \frac{\sqrt{1+kx} - \sqrt{1-kx}}{x} & \text{if } -1 \leq x < 0 \\ \frac{2x+1}{x-1} & \text{if } 0 \leq x \leq 1 \end{cases}$$

is continuous at  $x = 0$ , then the value of  $k$

55.

a) $k=3$

b) $k=1$

c) $k=0$

d) $k=2$

Ans:2

Exp:

56.  $\int \frac{1}{1+e^x} dx$  is equal to

a)  $\log_e \left( \frac{e^x + 1}{e^x} \right) + e$

b)  $\log_e \left( \frac{e^x - 1}{e^x} \right) + e$

c)  $\log_e \left( \frac{e^x}{e^x + 1} \right) + e$

d)  $\log_e \left( \frac{e^x}{e^x - 1} \right) + e$

Ans:3

Exp:

57.  $\int \frac{1}{\sqrt{3-6x-9x^2}} dx$  is equal to

a)  $\sin^{-1} \left( \frac{3x+1}{2} \right) + c$

b)  $\sin^{-1} \left( \frac{3x+1}{6} \right) + c$

c)  $\frac{1}{3} \sin^{-1} \left( \frac{3x+1}{2} \right) + c$

d)  $\sin^{-1} \left( \frac{2x+1}{3} \right) + c$

Ans:3

Exp:

58.  $\int_0^1 \frac{dx}{e^x + e^{-x}}$  is equal to

a)  $\frac{\pi}{4} - \tan^{-1}(e)$

b)  $\tan^{-1}(e) - \frac{\pi}{4}$

c)  $\tan^{-1}(e) + \frac{\pi}{4}$

d)  $\tan^{-1}(e)$

Ans:2

Exp:

If  $\vec{a}$  and  $\vec{b}$  are mutually perpendicular unit vectors,

59. then  $(3\vec{a} + 2\vec{b}) \cdot (5\vec{a} - 6\vec{b}) =$

a)5

b)3

c)6

d)12

Ans:2

Exp:

The image of the point (1, 6, 3) in the line

60.  $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$  is

a)(1,0,7)

b)(7,0,1)

c)(2,7,0)

d)(-1,-6,-3)

Ans:1

Exp: