

1. A straight highway leads to the foot of a 50m tall tower. From the top of the tower the angle of depression of the two cars on the highway are  $30^\circ$  and  $60^\circ$ . Then the distance between the two cars is
- a)  $100\sqrt{3}m$
  - b)  $\sqrt{3}/10m$
  - c)  $100/\sqrt{3}m$
  - d)  $10\sqrt{3}m$

Ans:3

Exp:

2. If  $A = \begin{bmatrix} 0 & -i \\ 1 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$  are matrices, then  $AB + BA$  is
- a) a unit matrix
  - b) an invertible matrix
  - c) a null matrix
  - d) a diagonal matrix

Ans:3

Exp:

3. Three vertices of  $\Delta ABC$  are  $A(1,4)$ ,  $B(-2,2)$  and  $C(3,2)$ . Then the area of  $\Delta ABC$  is
- a) 7sq. units
  - b) 15 sq. units
  - c) 5 sq. units
  - d) 6 sq. units

Ans:3

Exp:

4. Two girls and four boys are to be seated in a row in such a way that the girls do not sit together. In how many different ways can it be done?
- a) 240
  - b) 360
  - c) 720
  - d) 480

Ans:4

Exp:

5. If  $a, b, c$  are in A.P., as well as in G.P., then
- a)  $a=b=c$

- b)  $a=b=c$
- c)  $a \neq b \neq c$
- d)  $a \neq b = c$

Ans:2

Exp:

6. AB is a straight line and O is a point on the line AB. If one draws a line OC not coinciding with OA or OB, then the  $\angle AOC$  and  $\angle BOC$  are
- a) together equal to  $130^\circ$
  - b) supplementary
  - c) complementary
  - d) equal

Ans:2

Exp:

7. If  $A = \begin{pmatrix} 1 & 0 & 2 \\ 5 & 1 & x \\ 1 & 1 & 1 \end{pmatrix}$  is a singular matrix, then the value of x is
- a) 11
  - b) 9
  - c) -11
  - d) -9

Ans:2

Exp:

8. If  $\tan(A+B) = \frac{1}{\sqrt{3}}$  and  $\tan(A+B) = \sqrt{3}$ , then the values of A and B are respectively
- a)  $40^\circ, 20^\circ$
  - b)  $30^\circ, 30^\circ$
  - c)  $30^\circ, 60^\circ$
  - d)  $45^\circ, 15^\circ$

Ans:4

Exp:

9. If  $\log\sqrt{5}(x) + \log\sqrt[3]{5}(x) + \log\sqrt[4]{5}(x) + \dots$  upto 7 terms = 35, then the value of x is
- a) 125
  - b) 25
  - c) 75
  - d) 5

Ans:4

Exp:

10. The number of common tangents that can be drawn to two given circles is at the most

- a) Three
- b) One
- c) Two
- d) Four

Ans:4

Exp:

11. In a circle of radius 17cm, two parallel chords are drawn on opposite side of a diameter. The distance between the chords is 23cm. If the length of one chord is 16cm. then the length of the other chord is

- a) 15cm
- b) 30cm
- c) 23cm
- d) 34cm

Ans:2

Exp:

12. The logarithm of  $\frac{1}{256}$  to the base  $2\sqrt{2}$  is

- a)  $\frac{-14}{3}$
- b)  $\frac{8}{3}$
- c)  $\frac{-16}{3}$
- d)  $\frac{-8}{3}$

Ans:3

Exp:

13. The distance between two parallel lines  $5x-12y+2=0$  and  $5x-12y-3=0$  is given by

- a)  $1/13$
- b)  $5/13$
- c)  $5/14$
- d)  $1/17$

Ans:2

Exp:

14. The sum of the 24 terms of the series  $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots$  is

- a)  $100\sqrt{2}$
- b)  $300\sqrt{2}$
- c)  $200\sqrt{2}$
- d)  $500\sqrt{2}$

Ans:2

Exp:

15. The equation of the normal to the circle  $x^2 + y^2 = 2x$  which is parallel to the straight line  $x + 2y = 3$  is given by

- a)  $x + 2y + 1 = 0$
- b)  $x + 2y - 1 = 0$
- c)  $2x - y + 1 = 0$
- d)  $x - 2y + 1 = 0$

Ans:2

Exp:

16. The tangents of two points A and B on the circle with centre O intersect at a point P. If, in quadrilateral PAOB,  $\angle AOB : \angle APB = 5 : 1$ , then the measure of  $\angle APB$  is given by

- a)  $45^\circ$
- b)  $15^\circ$
- c)  $30^\circ$
- d)  $60^\circ$

Ans:3

Exp:

17.  $\lim_{x \rightarrow \infty} \left( \sqrt{x + \sqrt{x + \sqrt{x}}} - \sqrt{x} \right)$  is equal to

- a)  $\log_e(2)$
- b) 0.5
- c) 0
- d) 2

Ans:2

Exp:

18. An angle which is greater than  $180^\circ$  but less than  $360^\circ$  is known as

- a) an adjacent angle

- b) a right angle
- c) an alternate angle
- d) a reflex angle

Ans:4

Exp:

19.If  $\tan A = 1$  and  $\tan B = \sqrt{3}$ , then  $\cos(A+B)$  is equal to

- a)  $\frac{\sqrt{3}}{2\sqrt{2}}$
- b) 1
- c)  $\frac{1+\sqrt{3}}{2\sqrt{2}}$
- d)  $\frac{1-\sqrt{3}}{2\sqrt{2}}$

Ans:4

Exp:

20.The equation of the plane passing through the point (1, -1, 2) and parallel to the plane

$3x+4y-5z=0$  is

- a)  $3x+4y-5z-11 = 0$
- b)  $3x+4y-5z+1=0$
- c)  $3x+4y-5z+11=0$
- d)  $3x+4y-5z-1 = 0$

Ans:3

Exp:

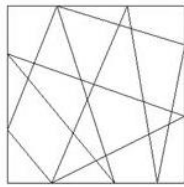
21.Jodhpur is referred as

- a) White city
- b) Golden city
- c) Pink city
- d) Blue city

Ans:4

Exp:

22. One of the following answer figure is hidden in the given problem figure, in the same size and direction. Select which one is correct?



A



B



C



D

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

Ans:2

Exp:

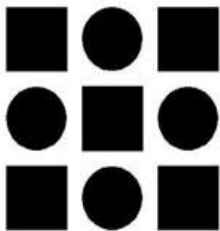
23. Paris Summit discusses which of the following issues?

- a) Migration
- b) Climate change
- c) Natural conservation
- d) Built Heritage

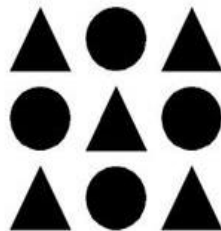
Ans:2

Exp:

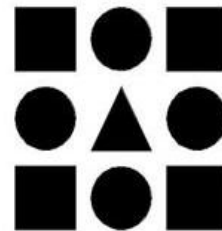
24. Which composition best fits variety?



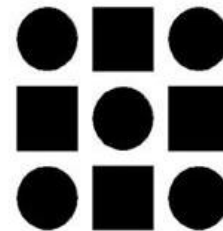
A



B



C



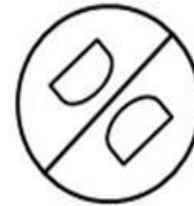
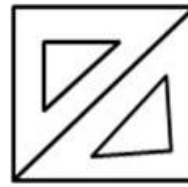
D

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

Ans:2

Exp:

25. Find the odd figure in the problem



A

B

C

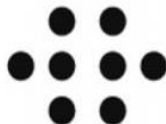
D

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

Ans:3

Exp:

26. Which of the following composition best fits Hierarchy?



A

B

C

D

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

Ans:2

Exp:

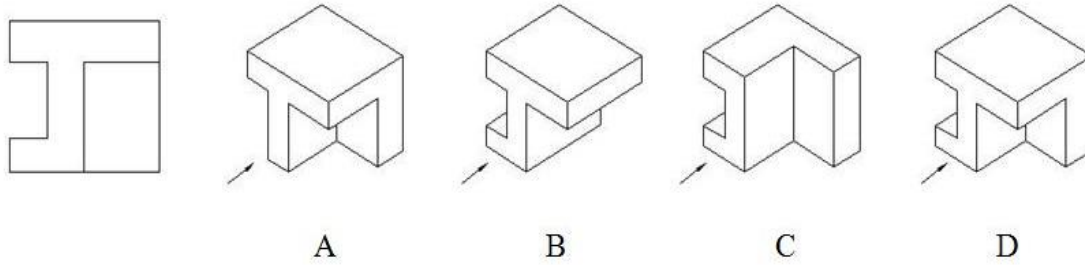
27. Geodesic domes are strong and rigid due to its \_\_\_\_\_ structural elements.

- a) Triangular
- b) Pentagonal
- c) Trapezoidal
- d) Square

Ans:1

Exp:

28. Answer the correct 3D View for the given elevation:

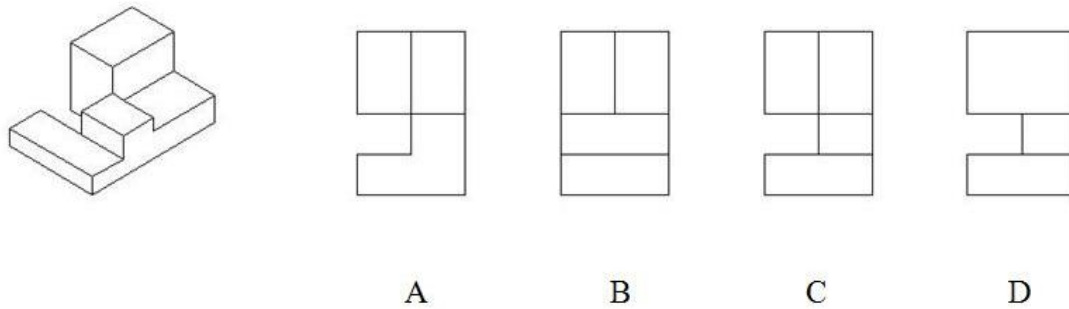


- a) A
- b) B
- c) D
- d) C

Ans:3

Exp:

29. Answer the correct TOP View for the given 3D object:



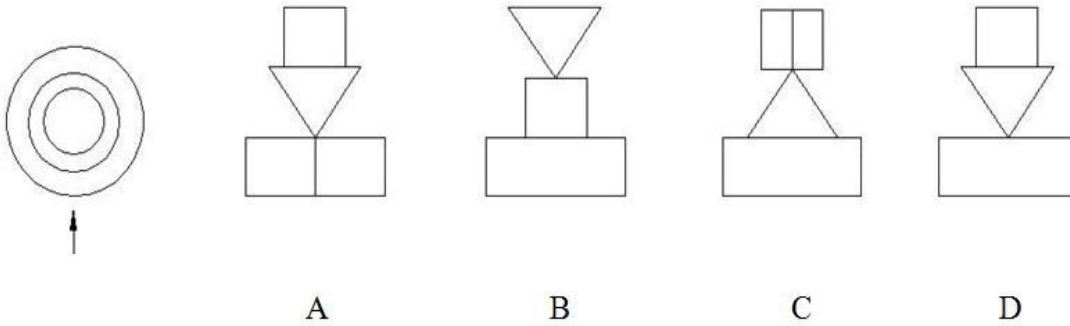
- a) B
- b) A
- c) C
- d) D

Ans:3

Exp:

30. Answer the correct FRONT view for the given top view:





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

Ans:3

Exp:

31. When was the Earth Day 2018 celebrated?

- a) 25<sup>th</sup> March, 2018
- b) 22<sup>nd</sup> April, 2018
- c) 23<sup>rd</sup> February, 2018
- d) 12<sup>th</sup> January, 2018

Ans:2

Exp:

32. The internal angle formed by the edges of a cube in isometric projection is?

- a) 45 degree
- b) 90 degree
- c) 60 degree
- d) 120 degree

Ans:4

Exp:

33. Which of these is not a structural part of a building?

- a) Foundation
- b) Roof Framing structure
- c) Column & Beam
- d) Doors and windows

Ans:4

Exp:

34. Franco Indian architecture is found in which Indian city?

- a) Pondicherry
- b) Kolkata
- c) Ahmednagar
- d) New Delhi

Ans:1

Exp:

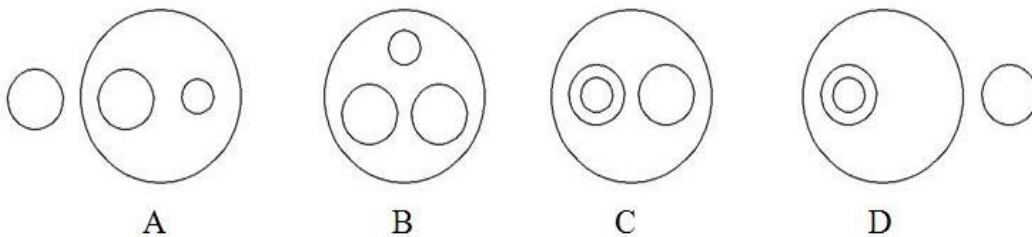
35. On weekends, Mr. Sanjay spends many hours working in his vegetable and flower gardens. Mrs. Sanjay spends her free time reading and listening to classical music. Both Mr. Sanjay and Mrs. Sanjay like to cook.

- a) Mrs. Sanjay enjoys reading nineteenth century novels.
- b) Mr. Sanjay enjoys planting and growing vegetables.
- c) Mrs. Sanjay cooks the vegetables that Mr. Sanjay grows.
- d) Mr. Sanjay does not like classical music.

Ans:2

Exp:

36. Which of the following diagrams indicates the best relation between Paris, France, Italy and World?



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

Ans:4

Exp:

37. 2018 Pritzker prize was awarded to which architect?

- a) Tadao Ando
- b) I.M. Pei
- c) Philip Johnson
- d) B.V. Doshi

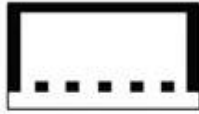
Ans:4

Exp:

38. Which of the following best illustrates a colonnade?



A



B



C



D

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

Ans:3

Exp:

39. Ganesh is older than her cousin Malavika. Malavika's brother Bharat is older than Ganesh. When Malavika and Bharat are visiting with Ganesh, all three like to play a game of Monopoly. Malavika wins more often than Ganesh does.

- a) Of the three, Malavika is the youngest.
- b) Ganesh hates to lose at Monopoly.
- c) When he plays Monopoly with Malavika and Ganesh, Bharat often loses.
- d) Of the three, Ganesh is the oldest.

Ans:1

Exp:

40. Adobe is associated with \_\_\_\_\_ construction.

- a) Wooden
- b) Metal
- c) Masonry
- d) Earthen

Ans:4

Exp:

41. Which of the following countries is below sea level?

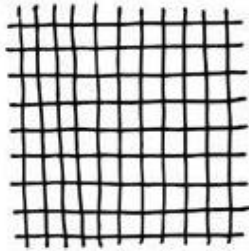
- a) Netherlands

- b) Costa Rica
- c) Maldives
- d) Spain

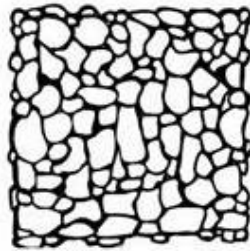
Ans:1

Exp:

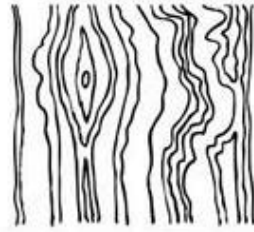
42. Which of the following best represents wood?



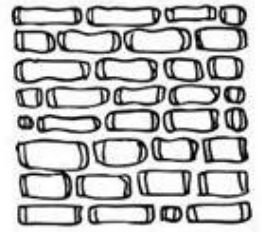
A



B



C



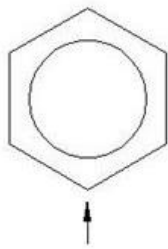
D

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

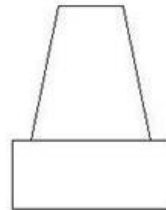
Ans:3

Exp:

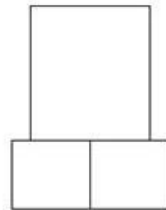
43. Answer the correct FRONT view for the top view:



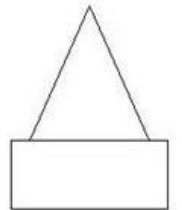
A



B



C



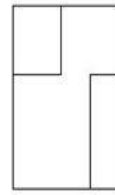
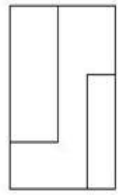
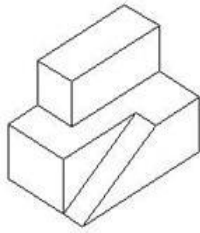
D

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

Ans:3

Exp:

44. Answer the correct TOP view for the 3D object:



A

B

C

D

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

Ans:3

Exp:

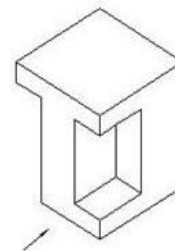
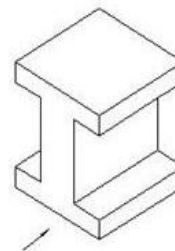
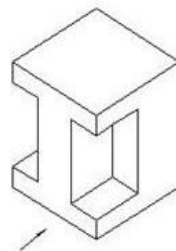
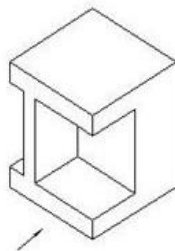
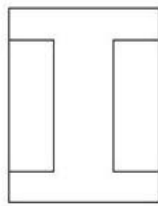
45. Which plantation helps in preventing erosion and protecting the coastal shoreline?

- a) Mangrove
- b) Mango
- c) Palm
- d) Coconut

Ans:1

Exp:

46. Answer the correct 3D view for the given elevation:



A

B

C

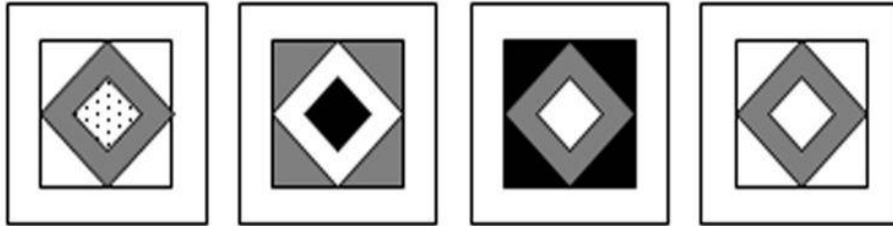
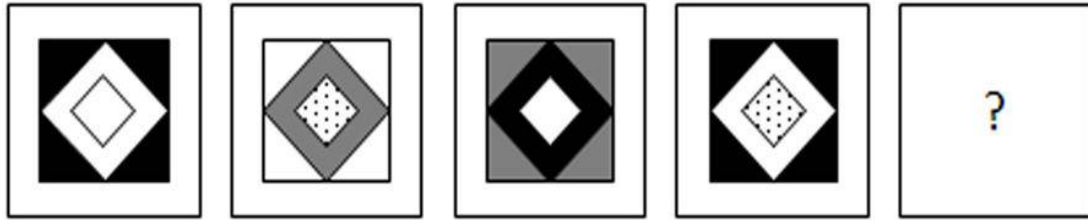
D

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

Ans:4

Exp:

47. Choose logical sequence which replaces the question mark.



A

B

C

D

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

Ans:3

Exp:

48. The substitute for River sand in building construction is

- a) Brick sand
- b) Manufactured sand
- c) Pit sand
- d) Sea sand

Ans:2

Exp:

49. A rectangular park 60m long and 40 m wide has two pathways of equal width running in the longitudinal and transverse direction and crossing each other at right angles in the middle of the park. The rest of the park is used as lawn. If the area of the lawn is 2109sq.m, then what is the width of the pathway?

- a) 2.5m
- b) 3m
- c) 4.5m

d) 6m

Ans:2

Exp:

50. Let  $Z$  denote the set of all integers. If a relation  $R$  is defined on  $Z$  as follows:  $(x, y) \in R$  if and only if  $x$  is multiple of  $y$ , then  $R$  is

- a) reflexive, symmetric but not transitive
- b) reflexive, transitive but not symmetric
- c) neither reflexive nor transitive but symmetric
- d) symmetric, transitive but not reflexive

Ans:2

Exp:

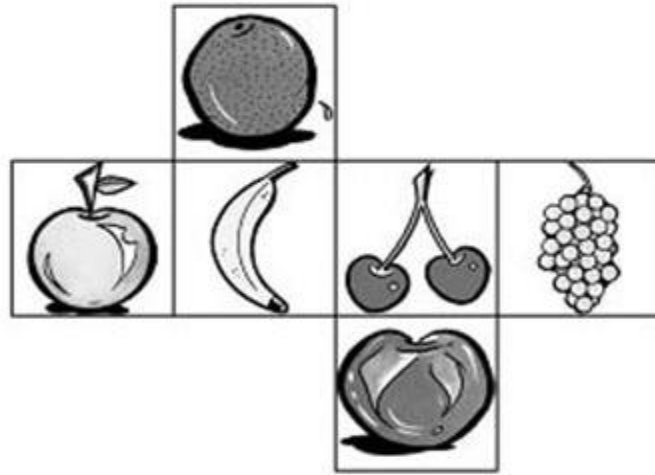
51. Haveli's are traditional buildings found in

- a) Andhra Pradesh
- b) Tamil Nadu
- c) Karnataka
- d) Rajasthan

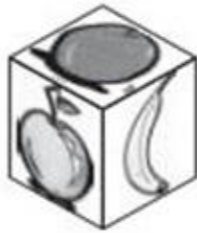
Ans:4

Exp:

52. Which picture cube does the unfolded shape make?



A



B



C



D

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

Ans:1

Exp:

53. Which letter replaces the question mark?





- a) N
- b) K
- c) Y
- d) M

Ans:4

Exp:

54. The Indian state which is called as “Bamboo Queen” is

- a) Kerala
- b) West Bengal
- c) Assam
- d) Mizoram

Ans:4

Exp:

55. Which Indian city ranks in UNESCO World Heritage list 2017?

- a) Kolkata
- b) Kanchipuram
- c) Chandigarh
- d) Ahmedabad

Ans:4

Exp:

56. The predominant material used in the construction of Eiffel tower is?

- a) Stainless steel
- b) Cast Iron
- c) Aluminium

d) Wrought Iron

Ans:4

Exp:

57. Identify the type of staircase



- a) spiral staircase
- b) helical staircase
- c) doglegged staircase
- d) none of these

Ans:1

Exp:

58. To which style does Taj Mahal belong to

- a) Hindu style
- b) Islamic style
- c) Christian style
- d) None of these

Ans:2

Exp:

59. The average monthly income of P and Q is Rs. 5050. The average monthly income of Q and R is Rs. 6250 and the average monthly income of P and R is Rs. 5200. The monthly income of P is:

- a) 3500
- b) 4000
- c) 4050
- d) 5000

Ans:2

Exp:

60. Which of the following country has the maximum number of tall buildings?

- a) India
- b) China
- c) Malaysia
- d) Pakistan

Ans:2

Exp: