

National Aptitude Test in Architecture (NATA) 2018

Council of Architecture



Participant ID:	13042359
App Sequence no:	5802
Participant Name:	Abhishek Khopkar
Test Center Name:	ION Digital Zone iDZ Turbhe SK Wheels
Test Date:	29/04/2018
Test Time:	09:30 AM - 12:30 PM
Subject:	NATA 2018
Marks Obtained:	78.00

Section : Mathematics

Q.1 If a, b, c are in A.P., as well as in G.P., then

- Ans
- 1. $a = b = c$
 - 2. $a \neq b = c$
 - 3. $a = b \neq c$
 - 4. $a \neq b \neq c$

Question ID : 833493125
 Status : Answered
 Chosen Option : 4
 Marks : 0.00

Q.2 The equation of the plane passing through the point (1, -1, 2) and parallel to the plane $3x + 4y - 5z = 0$ is

- Ans
- 1. $3x + 4y - 5z - 11 = 0$
 - 2. $3x + 4y - 5z + 11 = 0$
 - 3. $3x + 4y - 5z - 1 = 0$
 - 4. $3x + 4y - 5z + 1 = 0$

Question ID : 833493140
 Status : Answered
 Chosen Option : 1
 Marks : 0.00

Q.3 If $A = \begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}$ and $B = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$ are matrices, then $AB + BA$ is

- Ans
- 1. a null matrix
 - 2. a unit matrix
 - 3. a diagonal matrix
 - 4. an invertible matrix

Question ID : 833493130
 Status : Answered
 Chosen Option : 1
 Marks : 2.00

Q.4 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

- Ans
- 1. 30°
 - 2. 15°
 - 3. 60°
 - 4. 45°

Question ID : 833493139
 Status : Answered
 Chosen Option : 1
 Marks : 2.00

Q.5 If $\log_{\sqrt{5}}(x) + \log_{\sqrt[3]{5}}(x) + \log_{\sqrt[4]{5}}(x) + \dots$ up to 7 terms = 35, then the value of x is

- Ans
- 1. 25
 - 2. 5
 - 3. 125
 - 4. 75

Question ID : 833493128
 Status : Answered
 Chosen Option : 3
 Marks : 0.00

Q.6 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

- Ans
- 1. 23cm

Question ID : 833493136
 Status : Answered
 Chosen Option : 4
 Marks : 0.00

✓ 2. 30cm

✗ 3. 34cm

✗ 4. 15cm

Q.7 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

Ans ✗ 1. $2x - y + 1 = 0$

✗ 2. $x + 2y + 1 = 0$

✓ 3. $x + 2y - 1 = 0$

✗ 4. $x - 2y + 1 = 0$

Question ID : 833493143

Status : Answered

Chosen Option : 2

Marks : 0.00

Q.8 $\lim_{x \rightarrow \infty} \left(\sqrt{x + \sqrt{x + \sqrt{x}}} - \sqrt{x} \right)$ is equal to

Ans ✗ 1. 0

✓ 2. 0.5

✗ 3. 2

✗ 4. $\log_e(2)$

Question ID : 833493141

Status : Answered

Chosen Option : 1

Marks : 0.00

Q.9 Three vertices of $\triangle ABC$ are $A(1, 4)$, $B(-2, 2)$ and $C(3, 2)$. Then the area of $\triangle ABC$ is

Ans ✗ 1. 6 sq. units

✗ 2. 15 sq. units

✓ 3. 5 sq. units

✗ 4. 7 sq. units

Question ID : 833493138

Status : Answered

Chosen Option : 3

Marks : 2.00

Q.10 If $\tan A = 1$ and $\tan B = \sqrt{3}$, then $\cos(A+B)$ is equal to

Ans ✓ 1. $\frac{1 - \sqrt{3}}{2\sqrt{2}}$

✗ 2. 1

✗ 3. $\frac{1 + \sqrt{3}}{2\sqrt{2}}$

✗ 4. $\frac{\sqrt{3}}{2\sqrt{2}}$

Question ID : 833493133

Status : Answered

Chosen Option : 3

Marks : 0.00

Q.11 The number of common tangents that can be drawn to two given circles is at the most

Ans ✓ 1. two

✗ 2. three

✗ 3. four

✗ 4. one

Question ID : 833493137

Status : Answered

Chosen Option : 1

Marks : 2.00

Q.12 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

Ans ✗ 1. 11

✗ 2. -11

✓ 3. 9

Question ID : 833493131

Status : Answered

Chosen Option : 3

Marks : 2.00

✗ 4. -9

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

- Ans
- ✗ 1. $1/17$
 - ✗ 2. $1/13$
 - ✗ 3. $5/14$
 - ✓ 4. $5/13$

Question ID : 833493142
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.14 The logarithm of $\frac{1}{256}$ to the base $2\sqrt{2}$ is

- Ans
- ✗ 1. $\frac{8}{3}$
 - ✗ 2. $-\frac{14}{3}$
 - ✓ 3. $-\frac{16}{3}$
 - ✗ 4. $-\frac{8}{3}$

Question ID : 833493127
Status : Answered
Chosen Option : 1
Marks : 0.00

Q.15 An angle which is greater than 180° but less than 360° is known as

- Ans
- ✓ 1. a reflex angle
 - ✗ 2. an adjacent angle
 - ✗ 3. an alternate angle
 - ✗ 4. a right angle

Question ID : 833493134
Status : Answered
Chosen Option : 1
Marks : 2.00

Q.16 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° and 60° . Then the distance between the two cars is

- Ans
- ✗ 1. $100/\sqrt{3}$ m
 - ✗ 2. $10\sqrt{3}$ m
 - ✗ 3. $\sqrt{3}/10$ m
 - ✓ 4. $100\sqrt{3}$ m

Question ID : 833493132
Status : Answered
Chosen Option : 1
Marks : 0.00

Q.17 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?

- Ans
- ✗ 1. 240
 - ✗ 2. 360
 - ✓ 3. 480
 - ✗ 4. 720

Question ID : 833493144
Status : Answered
Chosen Option : 2
Marks : 0.00

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

- Ans
- ✗ 1. $100\sqrt{2}$
 - ✗ 2. $500\sqrt{2}$
 - ✗ 3. $200\sqrt{2}$
 - ✓ 4. $300\sqrt{2}$

Question ID : 833493126
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.19 If $\tan(A - B) = \frac{1}{\sqrt{3}}$ and $\tan(A + B) = \sqrt{3}$, then the values of A and B are respectively

- Ans
- 1. $40^\circ, 20^\circ$
 - 2. $30^\circ, 60^\circ$
 - 3. $30^\circ, 30^\circ$
 - 4. $45^\circ, 15^\circ$

Question ID : 833493129
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.20 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

- Ans
- 1. equal
 - 2. supplementary
 - 3. complementary
 - 4. together equal to 130°

Question ID : 833493135
Status : Answered
Chosen Option : 2
Marks : 2.00

Section : General Aptitude

Q.1 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 2109 sq.m, then what is the width of the pathway?

- Ans
- 1. 4.5m
 - 2. 6m
 - 3. 2.5m
 - 4. 3m

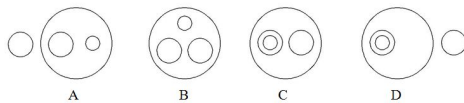
Question ID : 833493181
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.2 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.

- Ans
- 1. Ganesh hates to lose at Monopoly.
 - 2. Of the three, Ganesh is the oldest.
 - 3. When he plays Monopoly with Malavika and Ganesh, Bharat often loses.
 - 4. Of the three, Malavika is the youngest.

Question ID : 833493158
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.3 Which of the following diagrams indicates the best relation between Paris, France, Italy and World?



- Ans
- 1. A
 - 2. C
 - 3. D
 - 4. B

Question ID : 833493182
Status : Answered
Chosen Option : 2
Marks : 2.00

Q.4 The predominant material used in the construction of Eiffel tower is?

- Ans
- 1. Stainless steel
 - 2. Wrought Iron
 - 3. Cast Iron
 - 4. Aluminium

Question ID : 833493178
Status : Answered
Chosen Option : 1
Marks : 0.00

Q.5 When was the Earth Day 2018 celebrated?

- Ans
- 1. 12th January, 2018
 - 2. 22nd April, 2018
 - 3. 23rd February, 2018

Question ID : 833493164
Status : Answered
Chosen Option : 3
Marks : 0.00

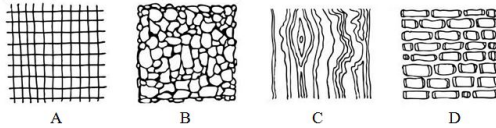
X 4. 25nd March, 2018

Q.6 The internal angle formed by the edges of a cube in isometric projection is?

- Ans **X 1.** 90 degree
X 2. 60 degree
X 3. 45 degree
✓ 4. 120 degree

Question ID : 833493175
 Status : Answered
 Chosen Option : 1
 Marks : 0.00

Q.7 Which of the following best represents wood?



- Ans **X 1.** A
✓ 2. C
X 3. D
X 4. B

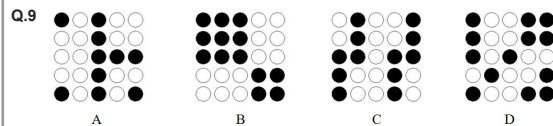
Question ID : 833493180
 Status : Answered
 Chosen Option : 2
 Marks : 2.00

Q.8 Which number replaces the question mark?



- Ans **X 1.** 32
✓ 2. 31
X 3. 27
X 4. 29

Question ID : 833493159
 Status : Answered
 Chosen Option : 2
 Marks : 2.00

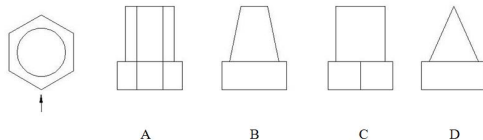


- Ans 1. C
 2. B
 3. A
 4. D

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Question ID : 833493145
 Status : Answered
 Chosen Option : 1
 Marks : 2.00

Q.10 Answer the correct FRONT view for the given top view:



- Ans **✓ 1.** C
X 2. B
X 3. D
X 4. A

Question ID : 833493151
 Status : Answered
 Chosen Option : 1
 Marks : 2.00

Q.11 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.

- Ans **X 1.**
 Mrs. Sanjay enjoys reading nineteenth century novels.
✓ 2.

Question ID : 833493157
 Status : Answered
 Chosen Option : 3
 Marks : 0.00

Mr. Sanjay enjoys planting and growing vegetables.

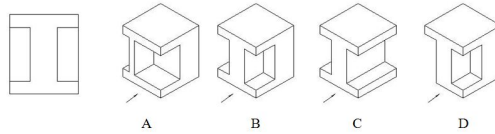
✗ 3.

Mrs. Sanjay cooks the vegetables that Mr. Sanjay grows.

✗ 4.

Mr. Sanjay does not like classical music.

Q.12 Answer the correct 3D view for the given elevation:



Question ID : 833493156
Status : Answered
Chosen Option : 3
Marks : 2.00

Ans ✗ 1. A

✗ 2. D

✓ 3. B

✗ 4. C

Q.13 Paris Summit discusses which of the following issues?

Ans ✓ 1. Climate change

✗ 2. Migration

✗ 3. Built Heritage

✗ 4. Natural conservation

Question ID : 833493174
Status : Answered
Chosen Option : 1
Marks : 2.00

Q.14 Find the odd figure in the problem



A

B

C

D

Ans ✗ 1. C

✗ 2. B

✓ 3. D

✗ 4. A

Question ID : 833493149
Status : Answered
Chosen Option : 3
Marks : 2.00

Q.15 Which plantation helps in preventing erosion and protecting the coastal shoreline ?

Ans ✗ 1. Mango

✓ 2. Mangrove

✗ 3. Coconut

✗ 4. Palm

Question ID : 833493167
Status : Answered
Chosen Option : 3
Marks : 0.00

Q.16 Adobe is associated with _____ construction.

Ans ✗ 1. Metal

✓ 2. Earthen

✗ 3. Wooden

✗ 4. Masonry

Question ID : 833493177
Status : Answered
Chosen Option : 1
Marks : 0.00

Q.17 Jodhpur is referred as

Ans ✗ 1. Golden city

✗ 2. Pink city

✗ 3. White city

✓ 4. Blue city

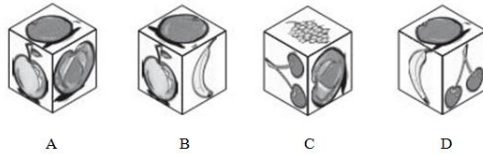
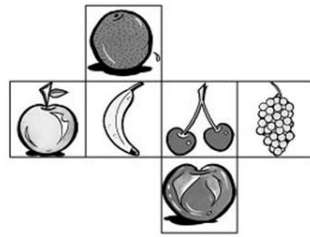
Question ID : 833493170
Status : Answered
Chosen Option : 2
Marks : 0.00

Q.18

Question ID : 833493160
Status : Answered
Chosen Option : 1

Which picture cube does the unfolded shape make?

Marks : 2.00



- Ans
- 1. C
 - 2. D
 - 3. B
 - 4. A

Q.19 Geodesic domes are strong and rigid due to its _____ structural elements.

Question ID : 833493176

Status : Answered

Chosen Option : 4

Marks : 2.00

- Ans
- 1. Square
 - 2. Trapezoidal
 - 3. Pentagonal
 - 4. Triangular

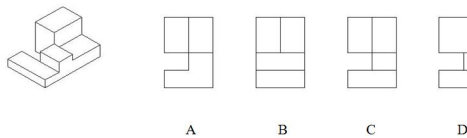
Q.20 Answer the correct TOP view for the given 3D object:

Question ID : 833493154

Status : Answered

Chosen Option : 2

Marks : 2.00



- Ans
- 1. D
 - 2. C
 - 3. A
 - 4. B

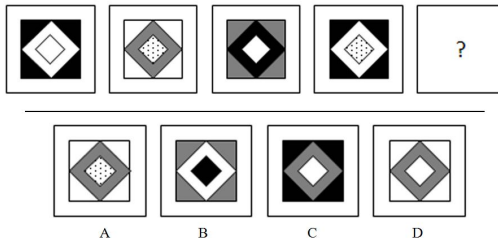
Q.21 Choose logical sequence which replaces the question mark.

Question ID : 833493162

Status : Answered

Chosen Option : 4

Marks : 2.00



- Ans
- 1. A
 - 2. B
 - 3. C
 - 4. D

Q.22 Which of the following composition best fits Hierarchy?

Question ID : 833493146

Status : Answered

Chosen Option : 2

Marks : 2.00



- Ans 1. C
 2. D
 3. B
 4. A

Q.23 Which of the following compound propositions are tautologies?

- (i) $(P \wedge \neg P) \rightarrow \neg P$
(ii) $(\neg Q \rightarrow P) \wedge Q$
(iii) $(Q \rightarrow P) \wedge (\neg P \wedge Q)$
(iv) $P \rightarrow (P \vee Q)$

Question ID : 833493183
Status : Answered
Chosen Option : 2
Marks : 0.00

Ans 1.

(i) and (ii) but not (iii) and (iv)

2.

(ii) and (iv) but not (i) and (iii)

3.

(i) and (iv) but not (ii) and (i)

4.

(ii) and (iii) but not (i) and (iv)

Q.24 Franco Indian architecture is found in which Indian city?

- Ans 1. Pondicherry
 2. New Delhi
 3. Kolkata
 4. Ahmednagar

Question ID : 833493173
Status : Answered
Chosen Option : 1
Marks : 2.00

Q.25 The substitute for River sand in building construction is

- Ans 1. Pit sand
 2. Brick sand
 3. Sea sand
 4. Manufactured sand

Question ID : 833493169
Status : Answered
Chosen Option : 4
Marks : 2.00

Q.26 Answer the correct TOP view for the given 3D object:



A

B

C

D

Question ID : 833493153
Status : Answered
Chosen Option : 3
Marks : 2.00

- Ans 1. B
 2. D
 3. A
 4. C

Q.27 Answer the correct 3D view for the given elevation:



A

B

C

D

Question ID : 833493155
Status : Answered
Chosen Option : 1
Marks : 2.00

- Ans 1. D
 2. C
 3. B
 4. A

Q.28 Haveli's are traditional buildings found in

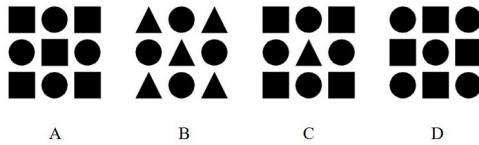
- Ans 1. Rajasthan

Question ID : 833493166
Status : Answered

2. Karnataka
 3. Andhra Pradesh
 4. Tamil Nadu

Chosen Option : 1
 Marks : 2.00

Q.29 Which composition best fits variety?

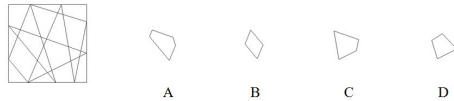


A B C D

- Ans 1. A
 2. B
 3. C
 4. D

Question ID : 833493147
 Status : Answered
 Chosen Option : 3
 Marks : 2.00

Q.30 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

- Ans 1. A
 2. D
 3. B
 4. C

Question ID : 833493150
 Status : Answered
 Chosen Option : 1
 Marks : 2.00

Q.31 Which of the following countries is below sea level

- Ans 1. Netherlands
 2. Costa Rica
 3. Spain
 4. Maldives

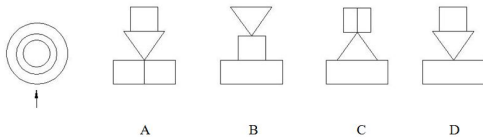
Question ID : 833493172
 Status : Answered
 Chosen Option : 4
 Marks : 0.00

Q.32 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

- Ans 1. neither reflexive nor transitive but symmetric
 2. symmetric, transitive but not reflexive
 3. reflexive, symmetric but not transitive
 4. reflexive, transitive but not symmetric

Question ID : 833493184
 Status : Answered
 Chosen Option : 1
 Marks : 0.00

Q.33 Answer the correct FRONT view for the given top view:



A B C D

- Ans 1. C
 2. A
 3. D
 4. B

Question ID : 833493152
 Status : Answered
 Chosen Option : 3
 Marks : 2.00

Q.34

Question ID : 833493148

Find the odd figure in the problem



A



B



C



D

Status : Answered

Chosen Option : 2

Marks : 2.00

- Ans
- 1. D
 - 2. B
 - 3. C
 - 4. A

Q.35 Which of these is not a structural part of a building?

- Ans
- 1. Column & Beam
 - 2. Foundation
 - 3. Roof Framing structure
 - 4. Doors and windows

Question ID : 833493171

Status : Answered

Chosen Option : 4

Marks : 2.00

Q.36 Which Indian city ranks in UNESCO World Heritage list 2017?

- Ans
- 1. Ahmedabad
 - 2. Kanchipuram
 - 3. Chandigarh
 - 4. Kolkata

Question ID : 833493165

Status : Answered

Chosen Option : 1

Marks : 2.00

Q.37 Which of the following best illustrates a colonnade?



A



B



C



D

- Ans
- 1. B
 - 2. C
 - 3. D
 - 4. A

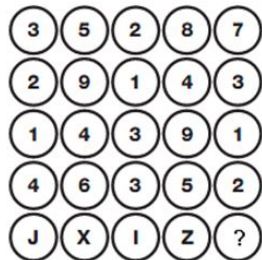
Question ID : 833493179

Status : Answered

Chosen Option : 1

Marks : 2.00

Q.38 Which letter replaces the question mark?



- Ans
- 1. M
 - 2. Y
 - 3. K
 - 4. N

Question ID : 833493161

Status : Answered

Chosen Option : 1

Marks : 2.00

Q.39 The Indian state which is called as "Bamboo Queen" is

- Ans
- 1. Kerala
 - 2. Mizoram
 - 3. West Bengal
 - 4. Assam

Question ID : 833493168

Status : Answered

Chosen Option : 4

Marks : 0.00

Q.40 2018 Pritzker prize was awarded to which architect?

- Ans
- 1. Tadao Ando
 - 2. B.V. Doshi
 - 3. Philip Johnson
 - 4. I.M.Pei

Question ID : 833493163

Status : Answered

Chosen Option : 2

Marks : 2.00

Section : Drawing Test

- Q.1 You are sitting at a table in front of a tea stall in the early morning sipping a hot cup of tea while your companion is reading a newspaper. The tea stall is located in a park and you are observing a man walking his dog and the beautiful garden landscape around you. Sketch the scenario described above and render light and shade using drawing pencils.

Question ID : 833493185

Status : Answered

Marks : 0.00

- Q.2 Using all the three shapes given below, create a visually pleasing composition. The shapes are to be used in the same size as illustrated below and they can be repeated, rotated, overlapped, interlocked and mirrored to create the composition. Use not more than 20 nos. of the shapes (all put together) and colour the composition using not more than 3 colours from analogous colour scheme.

Question ID : 833493186

Status : Answered

Marks : 0.00

