NATA 2018 Original Paper Solved From



National Aptitude Test in Architecture (NATA) 2018

Con Nathematics

- An angle which is greater than 180° but less than 360° is known as
- Cuestion ID: 833493134 Chosen Option: 2 Marks: 2.00

- "s × a right angle
 - 📝: a reflex angle
 - X3 an alternate angle
 - X + an adjacent angle
- The equation of the plane passing through the point (1, -1, 2) and parallel to the plane 3x + 4y 5z = 0 is
- Question ID: 833493140 Chosen Option: 2 Marks: 2.00

- $\times 3x + 4y 5z 11 = 0$
 - 4 = 3x + 4y 5z + 11 = 0
 - $\times 3x + 4y 5z + 1 = 0$
 - $\times 43x + 4y 5z 1 = 0$
- 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
- Question ID : 833493136 Chosen Option : 2 Marks : 0.00

- Ans X 23cm
 - X:15cm
 - X 3.34cm
 - ₹ 30cm
- Three vertices of ΔABC are A(1, 4), B(-2, 2) and C(3, 2). Then the area of ΔABC is
- Question ID : 833493138 Chosen Option : 4 Marks : 2,00

- × : 7 sq. units
 - × ≥ 15 sq. units
 - X = 6 sq. units
 - ₹ 5 sq. units
- 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
- Guestion ID: 833493143 Chesen Option: 3 Marks: 2.00

- Ans x = x 2y + 1 = 0
 - $\times 2 2x y + 1 = 0$ $\times x + 2y - 1 = 0$
 - $\times + x + 2y + 1 = 0$
- Q.6 The tangents of two points A and B on the circle with centre O intersect at a point P. If, in quadrilateral PAOB, ∠AOB: ∠APB=5:1, then the measure of ∠APB is given by
- Ans X:45°
 - ₹2 30°
 - X 15°
 - X + 60°

Cuestion (D : 833493139 Chosen Option : 2 Marks : 2,00

Ans
$$\sqrt{1-\sqrt{3}}$$

$$2\sqrt{2}$$

$$\times z \frac{1+\sqrt{3}}{2\sqrt{2}}$$

*
$$\times$$
 3. $\frac{\sqrt{3}}{2\sqrt{2}}$

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

Question ID : 833493141 Chosen Option : 2 Marks : 0.00

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

Question ID : 833493137 Chosen Option : 4

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

Question ID: 833493142

Chosen Option : 2 Marks : 2.00

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

Ans
$$\checkmark$$
 a = b = c

$$X^2 a = b \neq c$$

$$X_3 a \neq b = c$$

$$X + a \neq b \neq c$$

Ouestion ID : 833493125 Chosen Option : 1 Marks : 2.00

Ouestion ID : 833493132 Chosen Option : 2 Marks : 0.00

$$\times \sqrt{3}/10 \,\mathrm{m}$$

$$\times = 100 / \sqrt{3} \,\mathrm{m}$$

Ouestion ID: 833493129 Chosen Option: 4 Marks: 2.00

respectively

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

Question ID : 833493126 Chosen Option : 3 Marks : 0.00

O.15 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 ∠AOC and ∠BOC are

Question ID : 833493135 Chosen Option : 3 Marks : 0.00

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

Question ID : 833493130 Chosen Option : 2 Marks : 0.00

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

Ouestion ID : 833493127 Chosen Option : 1 Marks : 2.00

$$\sqrt{1 - \frac{16}{3}}$$

$$\times 2 \frac{8}{3}$$

$$\times 3. \frac{-8}{3}$$

$$\times 4.\frac{-14}{3}$$

2.18

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

Question ID : 833493128 Chosen Option : 3 Marks : 2.00

Ans

Q.19

Question ID : 833493131 Chosen Option : 2 Marks : 2.00

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

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?

Question ID : 833493144 Chosen Option : 3 Marks : 2.00

Ans X : 240

X = 360

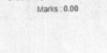
4 480

X 4.720

ection: General Aptitude

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

- reflexive, transitive but not symmetric
- × neither reflexive nor transitive but symmetric
- × 3 reflexive, symmetric but not transitive
- × symmetric, transitive but not reflexive
- Q.2 Find the odd figure in the problem



Question ID: 833493184 Chosen Option: 2









A

B

C

D

Ans

✓ B

X₂ D

XA

X+C

Question ID : 833493148 Chosen Option : 2 Marks : 0.00

Section (1) and (ii) but not (ii) and (ii) X : (ii) and (iii) but not (iii) and (iii) X : (ii) and (iii) but not (iii) and (iii) X : (iii) and (iii) but not (iii) and (iv) X : (iii) and (iii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iiii) and (iv) X : (iii) and (iiii) but not (iiii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iii) and (iv) X : (iii) and (iiii) but not (iiii) and (iv) X : (iii) and (iv) but not (iiii) and (iv) X : (iii) and (iv) but not (iiii) and (iv) X : (iii) and (iv) but not (iiii) and (iv) X : (iii) and (iv) but not (iiii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iii) and (iv) but not (iii) and (iv) X : (iiii) and (iv) but not (iv) and (iv) X : (iiii) and (iv) but not (iv) and (iv) X : (iii	2.3	Geodesic domes are strong and rigid due to its	structural elements.	Question ID : 833493176
X ≥ Pentagonal Triangular X Square The substitute for River sand in building construction is Descont D 435493149 The substitute for River sand in building construction is X Brick sand X ≥ Pit sand X ≥ Pit sand X ≥ Sea sand Minch number replaces the question mark? Descont D 435493149 Chosen Option 2 Mares 3.69 Which number replaces the question mark? Descont D 435493149 Chosen Option 2 Mares 3.69 Ans Which of the following compound propositions are tautologies? (i) (P ∧ ¬P) → ¬P (ii) (¬Q → P) ∧ Q (iii) (Q → P) ∧ (¬P ∧ Q) (iv) P → (P ∨ Q) Ans Ans Y (i) and (iv) but not (ii) and (iv) X (ii) and (iii) but not (ii) and (iv) X (ii) and (iii) but not (ii) and (iv) X (ii) and (iii) but not (i) and (iv) X (iii) and (iii) but not (i) and (iv) X (iv) and (iv) but not (i) and (iv) X (iv) and (iv) but not (i) and (iv) The internal angle formed by the edges of a cube in isometric projection is? Chasses (D 153491175) Chasses (D 15	ins			
21 Triangular 22 Square 23 Triangular 24 Square 25 Brick sand 27 Sea sand 28 Sea sand 29 Manufactured sand 29 Which number replaces the question mark? 29 Square 20 Which of the following compound propositions are tautologies? 20 (i) (P ∧ ¬P) → ¬P 21 (ii) (¬Q → P) ∧ Q 22 (iii) (Q → P) ∧ (¬P ∧ Q) 23 (iii) (Q → P) ∧ (¬P ∧ Q) 24 (ii) and (iv) but not (ii) and (iv) 27 Which of these is not a structural part of a building? 28 X 1 Roof Framing structure 29 X 2 (ii) and (iii) but not (ii) and (iv) 20 X 1 Roof Framing structure 20 X 2 (ii) and (iii) but not (iii) and (iv) 21 X 2 (iii) and (iii) but not (ii) and (iv) 22 X 3 (iii) and (iii) but not (iii) and (iv) 23 X 1 Roof Framing structural part of a building? 29 X 2 Roof Framing structural 20 X 2 Roof Framing structural 20 X 2 Roof Framing structural 21 X 2 Roof Framing structural 22 X 2 Roof Framing structural 23 X 3 Roof Framing structural 24 X 2 Roof Framing structural 25 X 2 Roof Framing structural 26 X 2 Roof Framing structural 27 X 2 Roof Framing structural 28 X 2 Roof Framing structural 29 X 2 Roof Framing structural 20 X 2 Roof Framing structural 21 X 3 Roof Framing structural 22 X 2 Roof Framing structural 23 X 2 Roof Framing structural 24 X 2 Roof Framing structural 25 X 2 Roof Framing structural 26 X 2 Roof Framing structural 27 X 2 Roof Framing structural 28 X 2 Roof Framing structural 29 X 2 Roof Framing structural 20 X 2 Roof Framing structural 21 X 2 Roof Framing structural 22 X 2 Roof Framing structural 23 X 2 Roof Framing structural 24 X 2 Roof Framing structural 25 X 2 Roof Framing structural 26 X 2 Roof Framing structural 27 X 2 Roof Framing structural 28 X 2 Roof Framing structural 29 X 2 Roof Framing structural 29 X 2 Roof Framing structural 20 X 2 Roof Framing structura				
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The substitute for River sand in building construction is \[\times \ti				
## X = Brick sand X : Pit sand X : Pit sand X : Sea sand ✓ Manufactured sand 25 Which number replaces the question mark? Closes Option 2 Manus : 0.00 15				
X 2 Pit sand X 1 Sea sand X 1 Sea sand X 2 Manufactured sand 3.5 Which number replaces the question mark? Grossin D. 833493195 Crossin Option: 2 Users: 0.00 1.5 6 9 16 7 1.5 8 9 16 7 1.5 Which of the following compound propositions are tautologies? (i) (P ∧ ¬P) → ¬P (ii) (¬Q → P) ∧ Q (iii) (Q → P) ∧ (¬P ∧ Q) (iii) (Q → P) ∧ (¬P ∧ Q) (iii) (Q → P) ∧ (¬P ∧ Q) (iv) P → (P ∨ Q) 1.5 (i) and (iv) but not (ii) and (ii) X 2 (ii) and (iv) but not (iii) and (iv) X 4 (ii) and (iii) but not (iii) and (iv) 3.6 (iii) and (iii) but not (ii) and (iv) 3.7 Which of these is not a structural part of a building? 3.8 (and iii) but not (iii) and (iv) 3.9 (but of these is not a structural part of a building? 3.1 Chosen Option: 4 Doors and windows 3.2 Column & Beam				
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## Which number replaces the question mark? Chosen Option 2				
The series of the following compound propositions are tautologies? Chosen Option: 2 Maris: 6.00 Which of the following compound propositions are tautologies? (i) (P ∧ ¬P) → ¬P (ii) (¬Q → P) ∧ Q (iii) (Q → P) ∧ (¬P ∧ Q) (iv) P → (P ∨ Q) Maris: 2.00 Maris: 2.00 Maris: 2.00 Ans ✓ (i) and (iv) but not (ii) and (iv) × (ii) and (iii) but not (iii) and (iv) × (ii) and (iii) but not (ii) and (iv) Which of these is not a structural part of a building? X · Roof Framing structure X · Poundation X · Column & Beam ✓ Doors and windows Ouesion ID: 833493175 Chosen Option: 2 Maris: 2.00 Ans X · 90 degree X · 90 degree X · 90 degree ✓ 120 degree				
S G 9 16 7	2.5	Which number replaces the question mark?		Chosen Option : 2
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(iii) $(Q \rightarrow P) \land (\neg P \land Q)$. (iv) $P \rightarrow (P \lor Q)$ Ans \checkmark (i) and (iv) but not (ii) and (i) \times 2 (ii) and (iv) but not (i) and (iii) \times 3 (i) and (ii) but not (iii) and (iv) \times 4 (ii) and (iii) but not (i) and (iv) G.7 Which of these is not a structural part of a building? Ans \times 1 Roof Framing structure \times 2 Foundation \times 3 Column & Beam \checkmark 2 Doors and windows G.8 The internal angle formed by the edges of a cube in isometric projection is? Ans \times 90 degree \times 2 60 degree \checkmark 120 degree	Q.6			Marks : 2.00
(iv) P→ (P∨ Q) Ans (i) and (iv) but not (ii) and (ii) × 2 (ii) and (iv) but not (i) and (iii) × 3 (i) and (ii) but not (iii) and (iv) × 4 (ii) and (iii) but not (i) and (iv) Ans (iii) and (iii) but not (i) and (iv) 4. Roof Framing structure × 2. Foundation × 3. Column & Beam 4. Doors and windows Ouesion ID: 833493175 Chosen Option: 4 Marks: 2.09 Ans X 1. 90 degree × 2. 60 degree × 2. 60 degree ✓ 3. 120 degree				
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(1) and (iv) but not (i) and (iii) X 2 (ii) and (ii) but not (ii) and (iv) X 4 (ii) and (iii) but not (i) and (iv) Which of these is not a structural part of a building? Ans X Roof Framing structure X 2 Foundation X 3 Column & Beam Ans Operation of the internal angle formed by the edges of a cube in isometric projection is? Ouestion ID: 833493171 Chosen Option: 4 Marks: 2.00 Cuestion ID: 833493175 Chosen Option: 3 Marks: 2.00 Marks: 2.00		$(iv) P \to (P \lor Q)$		
X 3 (i) and (ii) but not (iii) and (iv) X 4 (ii) and (iii) but not (i) and (iv) Q.7 Which of these is not a structural part of a building? Ans X 1. Roof Framing structure X 2. Foundation X 3. Column & Beam A 2 Doors and windows Question ID: 833493175 Chosen Option: 4 Marks: 2.00 Ans X 1. 90 degree X 2 60 degree X 3 120 degree	Ans	(i) and (iv) but not (ii) and (i)		
X 3 (i) and (ii) but not (iii) and (iv) X 4 (ii) and (iii) but not (i) and (iv) Q.7 Which of these is not a structural part of a building? Ans X 1. Roof Framing structure X 2. Foundation X 3. Column & Beam A 2 Doors and windows Question ID: 833493175 Chosen Option: 4 Marks: 2.00 Ans X 1. 90 degree X 2 60 degree X 3 120 degree		× 2 (ii) and (iv) but not (i) and (iii)		
X4 (ii) and (iii) but not (i) and (iv) Question ID: 833493171 Chosen Option: 4 Narks: 2.00 Ans X: Roof Framing structure X: Foundation X: Column & Beam Y: Doors and windows Cuestion ID: 833493175 Chosen Option: 3 Ans X: 90 degree X: 2 60 degree X: 2 60 degree X: 120 degree				
O.7 Which of these is not a structural part of a building? Ans				
Ans X Roof Framing structure X Poundation X Column & Beam Doors and windows O.8 The internal angle formed by the edges of a cube in isometric projection is? Ans X 90 degree X 2 60 degree Als 120 degree Occosen Option : 4 Marks : 2.00 Marks : 2.00				
X 2. Foundation X 3. Column & Beam ✓ Doors and windows The internal angle formed by the edges of a cube in isometric projection is? Ans X 90 degree X 2. 60 degree ✓ 3. 120 degree	Q.7			
X 3. Column & Beam ✓ 4 Doors and windows O.8 The internal angle formed by the edges of a cube in isometric projection is? Ans X 90 degree X 2 60 degree ✓ 3 120 degree	Ans			Marks : 2.00
O.8 The internal angle formed by the edges of a cube in isometric projection is? Ans X = 90 degree X = 60 degree 120 degree				
The internal angle formed by the edges of a cube in isometric projection is? Chosen Option: 3 Ans × 90 degree × 2 60 degree				
Ans X 90 degree X 2 60 degree 2 120 degree	0.8	The internal angle formed by the edges of a cube in isome	etric projection is?	
× ≥ 60 degree	Ans			
✓ 3 120 degree				
		× 4. 45 degree		

Q.9	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?	Chosen Option 4 Marks : 2.00
Ans	X 4.5m	
	× 2 6m	
	× 5. 2.5m	
	✓ 3 m	
Q.10	Answer the correct FRONT view for the given top view:	Question ID : 833493152 Chosen Option : 4 Marks : 2.00
	A B C D	
Ans	× B	
90.50	X 2 A	
	X:C	
	✓· D	
Q.11 Ans	2018 Pritzker prize was awarded to which architect?	Question ID : 833493163 Chosen Option : 1
Alla	X Tadao Ando	Marks : 0.00
700	✓ 2 B.V. Doshi	
id h	X 3 Philip Johnson	
	× 4 I.M.Pei	
Q.12	The predominant material used in the construction of Eiffel tower is?	Question ID : 831493178
Ans	X Stainless steel	Chosen Option : 1 Marks : 0.00
	✓ Wrought Iron	
	X 3 Cast Iron	
	× 4 Aluminium	
Q.13	One of the following answer figure is hidden in the given problem figure, in the sam size and direction. Select which one is correct?	Chosen Option : 2 Marks : 2.00
	XXX O O D O	
	A B C D	
Ans	X: B	
	✓: A	
	X3 C	
	X+ D	
0.41		
Q.14	Adobe is associated withconstruction.	Question ID: 833493177 Chosen Option: 4
Ans	× Masonry	Marks : 2.00
	X 2 Wooden	
	× 3. Metal	

✓ - Earthern

Paris Summit discusses which of the following issues? Q.15

Ans

Climate change

X 2 Built Heritage

X 3. Natural conservation

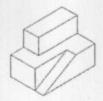
X 4 Migration

Answer the correct TOP view for the given 3D object:

Question ID: 833493174 Chosen Option: 4 Marks: 0.00

Question ID: 833493153 Chosen Option: 2

Marks: 2.00







В



C



D

X: C

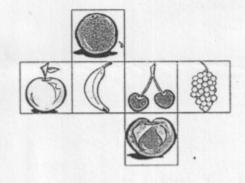
¥2. A

X 3. B

X+D

Q.17 Which picture cube does the unfolded shape make?

Question ID: 833493160 Chosen Option : 1 Marks : 0.00











X B

XZA 4 : C

XID

Q.18 Which Indian city ranks in UNESCO World Heritage list 2017?

Ans

X : Kolkata

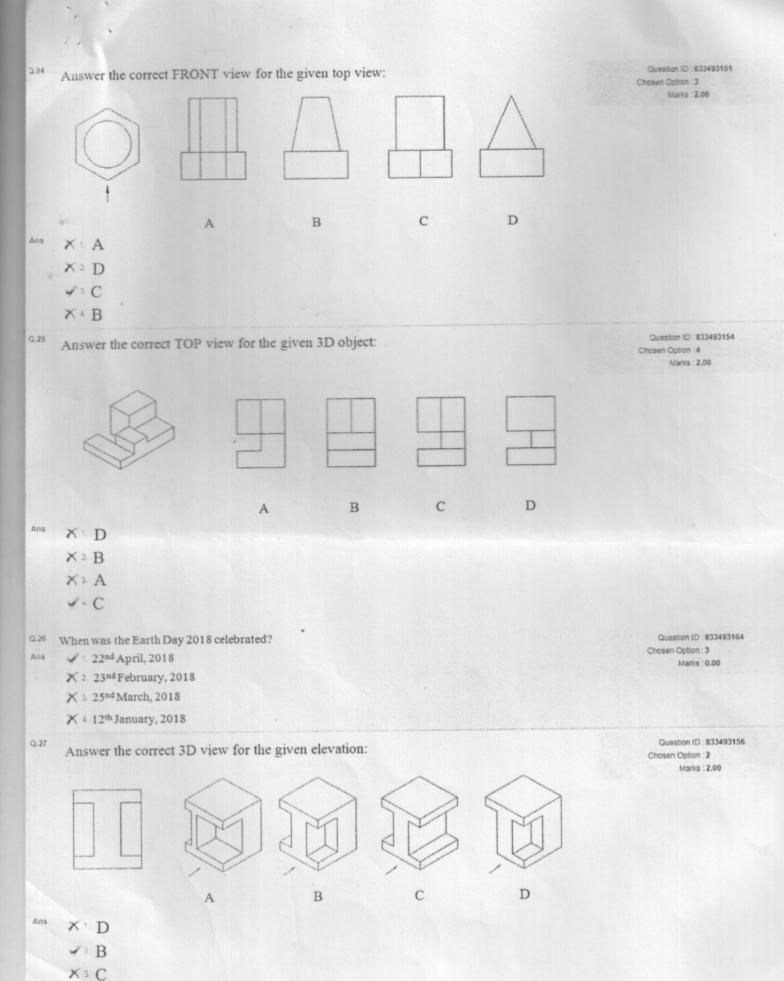
✓ 2 Ahmedabad

X 3 Chandigarh

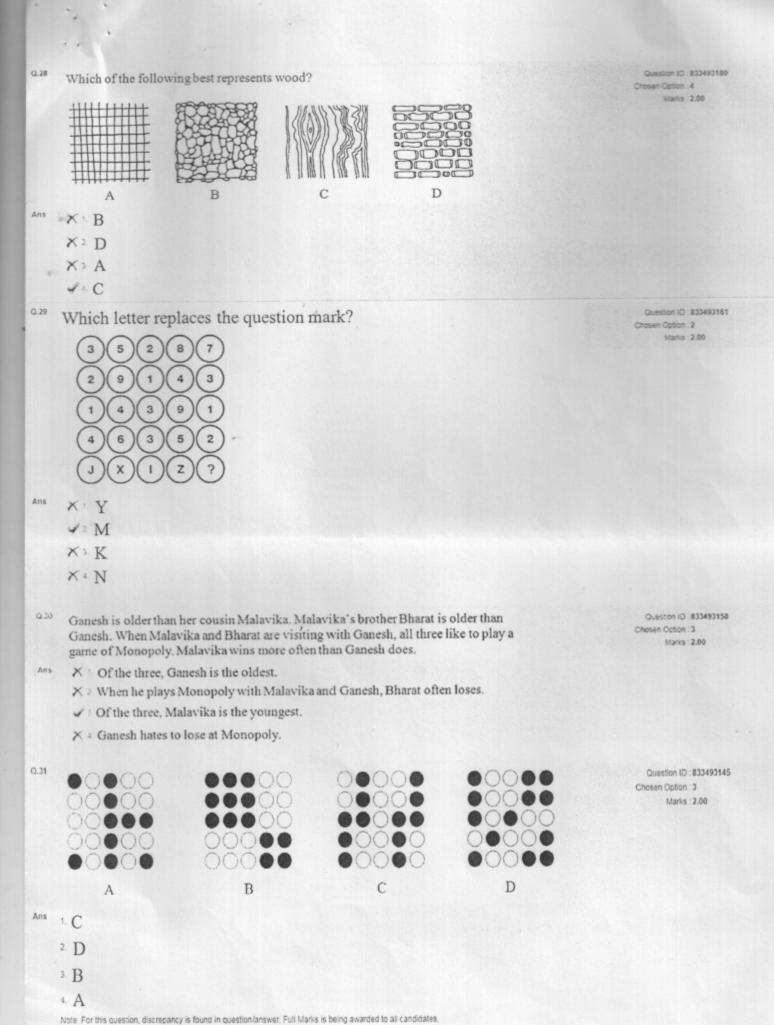
X 4 Kanchipuram

Question ID: 833493165 Chosen Option : 4 Marks: 0.00

Question ID: 833493179 Which of the following best illustrates a colonnade? Chosen Option : 2 Marks: 0.00 В C D A X : A X2 C ₩ B X A D Question ID: 833493146 Which of the following composition best fits Hierarchy? Chosen Option : 2 Marks : 2.00 Ans X · A 42 D X : B XIC Question ID: 833493166 0.21 Haveli's are traditional buildings found in Chosen Option : 2 Ans X Tamil Nadu Marks : 2.00 2 Rajasthan X 3. Karnataka X 4 Andhra Pradesh Question ID: 833493172 Which of the following countries is below sea level Q.22 Chosen Option : 2 X : Costa Rica Marks: 0.00 X Maldives ✓ Netherlands X : Spain Question ID: 833493162 Choose logical sequence which replaces the question mark. Q.23 Chosen Option : 1 Marks : 2.00



X 4 A



Question ID: 833493167 0.32 Which plantation helps in preventing erosion and protecting the coastal shoreline? Chosen Option : 1 Marks: 2.00 X 2 Mango X 3. Palm X 4 Coconut Franco Indian architecture is found in which Indian city? Question ID: 833493173 Chosen Option : 1 Ans | Pondicherry Marks : 2.00 X 2 New Delhi X 3. Ahmednagar X 4 Kolkata Q.34 The Indian state which is called as "Bamboo Queen" is Question ID: 833493168 Chosen Option : 2 Ans X : West Bengal Marks: 0.00 X 2 Assam X 3 Kerala Mizoram Q.35 Question ID: 833493170 Jodhpur is referred as Chosen Option : 1 Ans X : White city Marks : 0.00 X 2 Golden city X 3. Pink city Blue city Question ID: 833493157 0.36 On weekends, Mr. Sanjay spends many hours working in his vegetable and flower Chosen Option : 3 gardens. Mrs. Sanjay spends her free time reading and listening to classical music. Marks : 0.00 Mrs. Sanjay like to cook. Both Mr. Sanjay and Ans Mr. Sanjay enjoys planting and growing vegetables. X 2 Mrs. Sanjay cooks the vegetables that Mr. Sanjay grows. X 3 Mr. Sanjay does not like classical music. × 4. Mrs. Sanjay enjoys reading nineteenth century novels. Queston ID: 833493182 Which of the following diagrams indicates the best relation between Paris, France, Italy Chosen Octon 2 and World? Marks : 2.00 B X B 4: C X D X A

Question ID: 833493147 Chasen Option: 3 Marks: 2.00







В



C



V D

X: A

X: C

X+B

Which composition best fits variety?

В

C

D

X: A

2.39

X2B

V: C

X + D

Find the odd figure in the problem









A

В

C

D

¥: D

X = B

X: C

X4 A

Question ID: 833493149

Chosen Option : 1 Marks: 2.00

NATA-2018: Answer Key

Mathematics (Q. 1 – 20)		General Aptitude (Q. 21 – 60)			
Question No	Answer Key	Question No	Answer Key	Question No	Answer Key
1	В	1	Α	21	В
2	В	2	Α	22	С
3	D	3	С	23	Α
4	D	4	D	24	С
5	С	5	С	25	D
6	В	6	Α	26	Α
7	Α	7	D	27	В
8	D	8	С	28	D
9	В	9	D	29	В
10	В	10	D	30	С
11	Α	11	2	31	-
12	С	12	В	32	Α
13	D	13	В	33	Α
14	Α	14	D	34	4
15	Α	15	Α	35	4
16	С	16	В	36	Α
17	Α	17	С	37	В
18	С	18	В	38	Α
19	В	19	С	39	С
20	С	20	В	40	Α