JEE (Adv) 2020 (AAT)	JEE (Adv) 2020 (AAT)

Time: 3 hours   **Maximum Marks: 300**

READ THE INSTRUCTIONS CAREFULLY

GENERAL

- This sealed booklet is your Question Paper. Do not break the seal till you are told to do so.

- Immediately after breaking the seal of the booklet, verify that the booklet contains **28 pages** and that all the **16 questions** along with the options are legible. Report immediately about any missing or torn sheet in this booklet and ask for a replacement of the booklet from the invigilator. No replacement will be allowed after 15 minutes of the starting of the examination.

- Write your Name, Roll Number, JEE (Adv) 2020 Rank and other details in the space provided and nowhere else. No distinctive / identification mark of any type is to be put anywhere else in this booklet.

- Answers are to be written only in the booklet and within the space provided beside / below each Question and nowhere else. Answers written in non-designated place will not be evaluated.

- Blank spaces are provided within this booklet for rough work.

- Do not deface this booklet or detach or mutilate any sheet from the booklet. Such acts lead to disqualification.

- The question paper has five sections.

- **All the Questions are compulsory.**

Total Marks Obtained:

In Numbers:

In words:_____

_____
Signature of the Examiner with date

_____
Signature of the Scrutinizer with date

NAME: _____

_____

ROLL NO:_____

JEE (ADV) 2020 RANK:_____

CATEGORY:_____

CATEGORY RANK (IF APPLICABLE):

_____

EXAMINATION CENTRE:

_____

I HAVE READ ALL THE INSTRUCTIONS AND SHALL ABIDE BY THEM

_____
Signature of the Candidate

_____
Signature of the Invigilator after verification of identity and other details

SEAL

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SECTION A: Architectural Awareness (Maximum Marks: 60)
This section contains **FOUR** questions. Question 1 carries **30 marks**, Questions 2, 3 and 4 carry **10 marks** each. There is **NO** negative marking.

Q.1. This section contains **15 multiple choice questions**. Each question has four options, out of which **ONLY ONE** is correct. Mark the correct option with a tick ✔ mark.

(15 x 2 = 30 Marks)

(i) The architectural marvel 'Taj Mahal' at Agra is a

    ☐ Museum   ☐ Fort

    ☐ Mausoleum   ☐ Palace

(ii) Which among the following materials possesses similar binding property as cement?

    ☐ Lime   ☐ Brick

    ☐ Sand   ☐ Gravel

(iii) Ratio of two consecutive higher order terms in Fibonacci Sequence, approaches an irrational number which is known as

    ☐ Golden Ratio   ☐ Pi

    ☐ Euler's number   ☐ Pythagoras' constant

(iv) An Indian architect, who won the Pritzker Architecture Prize in the year 2018 is

    ☐ Hafeez Contractor   ☐ Raj Rewal

    ☐ B V Doshi   ☐ Charles Correa

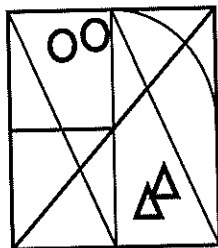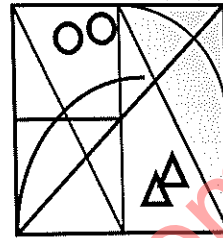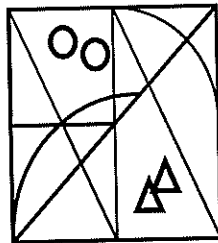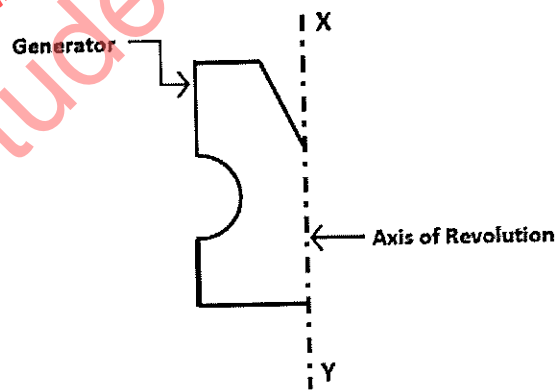(v)   Which among the following is identical to 'Figure X'?
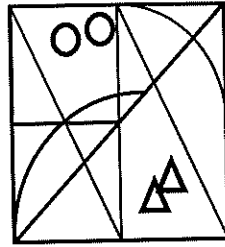
Figure X
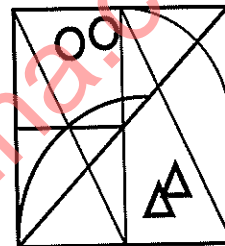
(vi)   The number of curved surfaces obtained by rotating the generator (as shown in the figure below) about its axis of revolution X-Y, is

☐ 2   ☐ 3

☐ 4   ☐ 6

(vii) One hectare equals to

☐ 10,000 sq.mt.

☐ 100,000 sq.mt.

☐ 1,000 sq.mt.

☐ 100 sq.mt..

(viii) Which of the following architectural master piece in India features in the UNESCO world heritage list?

☐ Lotus Temple, New Delhi by Fariborz Sahba

☐ The Complexe du Capitole, Chandigarh by Le Corbusier

☐ Jawahar Kala Kendra, Jaipur by Charles Correa

☐ Matrimandir - Auroville, Puducherry by Roger Anger

(ix) Escalator is used in public buildings for

☐ Vertical circulation

☐ Horizontal circulation

☐ Fire protection

☐ Beautification

(x) Which among the following is **NOT** a type of air-conditioner?

☐ Window

☐ Split

☐ Cassette

☐ Disc

(xi) Sloped roof **DOES NOT** protect the building from

☐ Heavy rain

☐ Snow fall

☐ Hail storm

☐ Earthquake

(xii) A building wall section is presented in the figure below. Identify the building elements marked in the figure as P, Q and R.
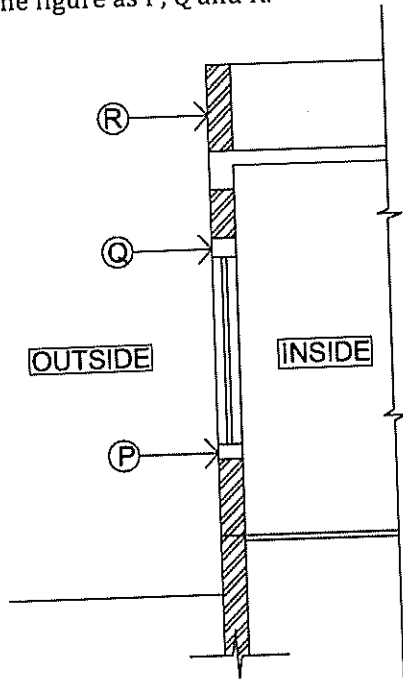

⬜ (P) Lintel (Q) Sill (R) Parapet

⬜ (P) Sill (Q) Lintel (R) Parapet

⬜ (P) Parapet (Q) Lintel (R) Sill

⬜ (P) Sill (Q) Parapet (R) Lintel

(xiii) The World Habitat Day is celebrated every year on

⬜ First Monday of October

⬜ Second Monday of October

⬜ First Monday of November

⬜ Second Monday of November

(xiv)   An object-X and its shadow against the light direction are shown as top view. Identify the object –X from the options given below.

Shadow

Object X

Light

☐

☐

☐

☐
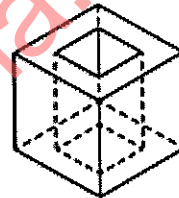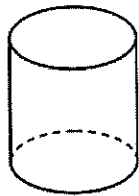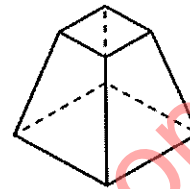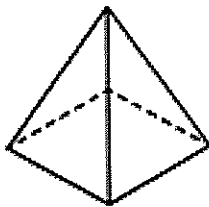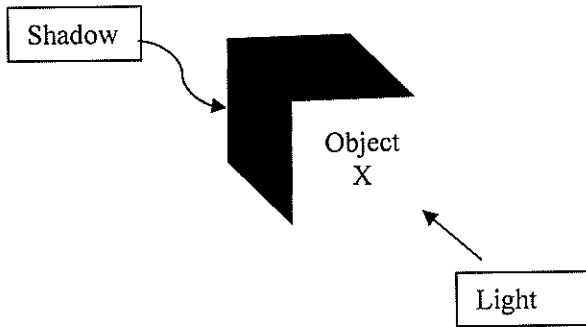
(xv)   Identify the appropriate pattern following the sequence

P) \ | | | \   Q) \ | | | /   R) \ | | | | \   S) ___?___

☐   \ | | | | | \   ☐   \ | | | | | /
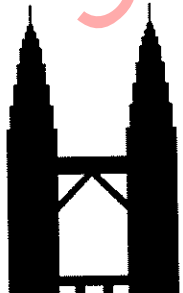
☐   \ | | | | /   ☐   \ | | | | | |
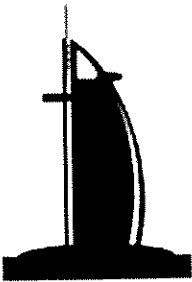
Q.2   Match the logo in **Column I** with the respective Government of India mission/ scheme in   **(5 x 2 = 10 Marks)**
Column II

Column I		Column II
(A) □		(P) Smart City
(B) □		(Q) Digital India
(C) □		(R) National Higher Education Mission
(D) □		(S) Skill India
(E) □		(T) Mid-day meal
		(U) Make in India

Q.3   Match the silhouette of the building in **Column I** with its respective location in **Column II**

(5 x 2 = 10 Marks)

Column I	Column II
(A) ☐	(P) Hyderabad
(B) ☐	(Q) Kuala Lumpur
(C) ☐	(R) Dubai
(D) ☐	(S) Moscow
(E) ☐	(T) Abu Dhabi
	(U) New Delhi

Q.4 Match the following cities listed in **Column I** and their popular name in **Column II**

(5 x 2 = 10 Marks)

Column I		Column II
(A) Jaipur		(P) Steel city
(B) Bangalore		(Q) Manchester of India
(C) Surat		(R) Pink City
(D) Jamshedpur		(S) Garden City
(E) Ahmedabad		(T) Blue City
		(U) Diamond city

SECTION B: Geometrical Drawing (Maximum Marks: 60)
This section contains **THREE (03)** questions. Each question carries **20** marks

Q.5   Jalis are used in historic and contemporary buildings to ensure natural light and ventilation. Figure X below shows an example of such Jali. The basic component of Jali is its geometrical configuration. Complete the Jali design in the box below.
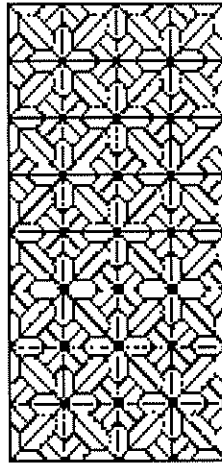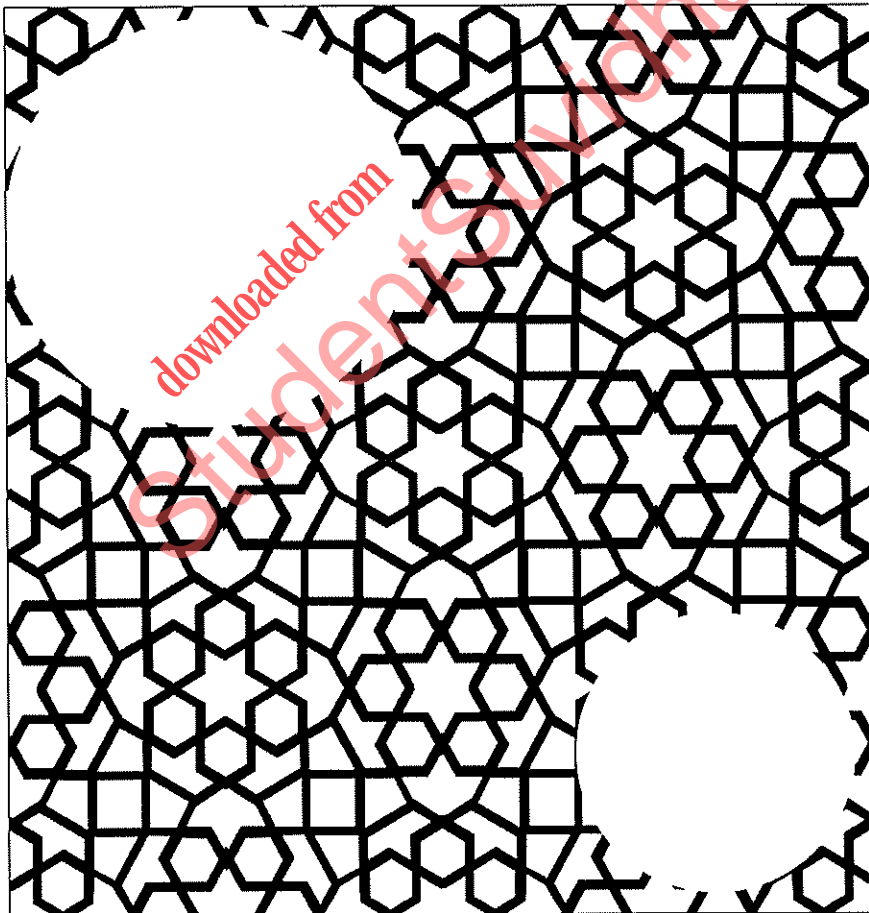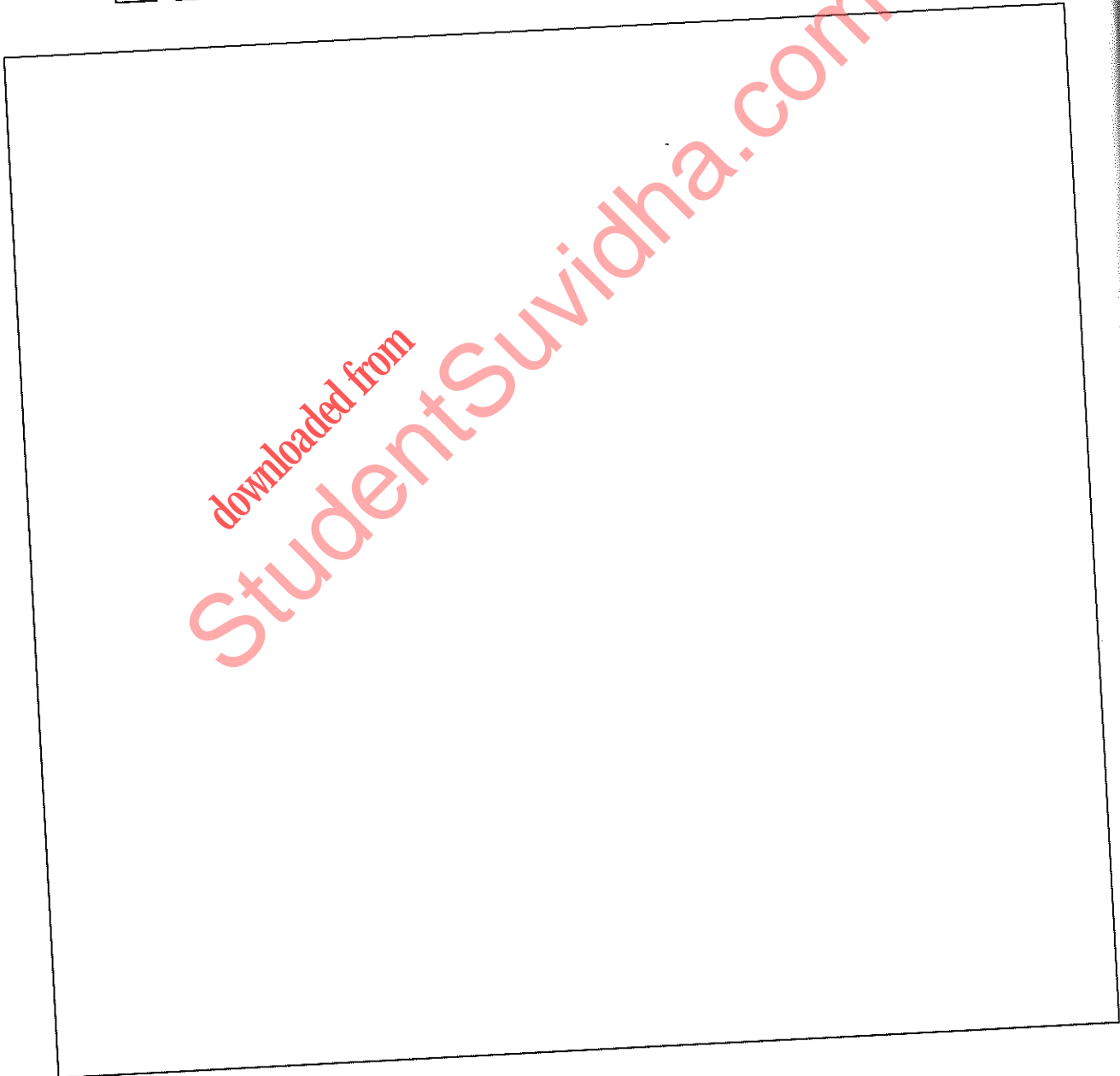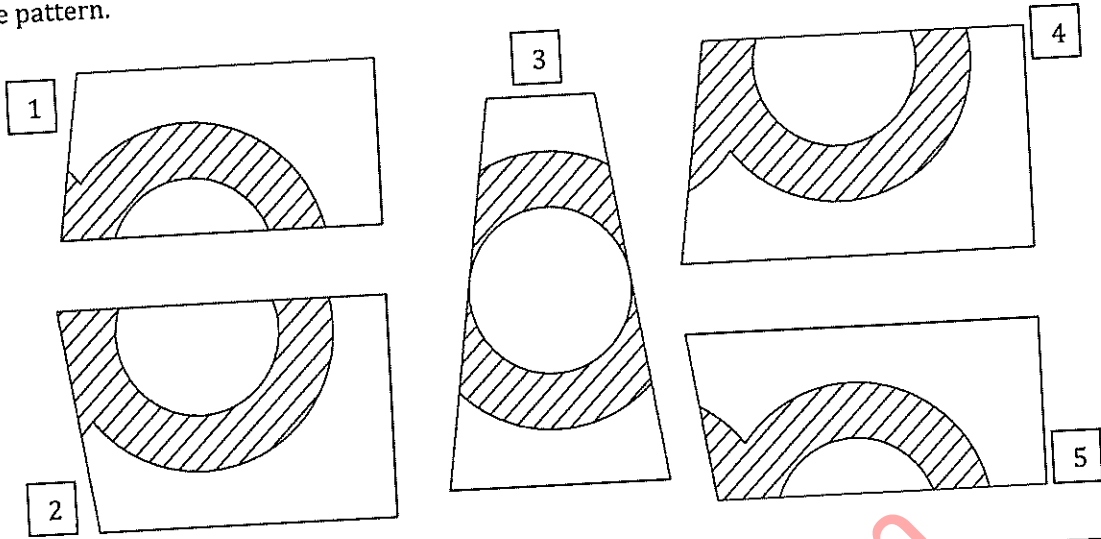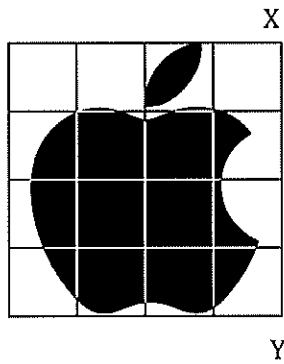

Figure X

Q.6 Rearrange the following five pieces of paper to form a rectangle in such a way that it completes the pattern.

1

3

4

2

5

Q.7   Enlarge the following figure three times after flipping about the line XY, in the space provided below.

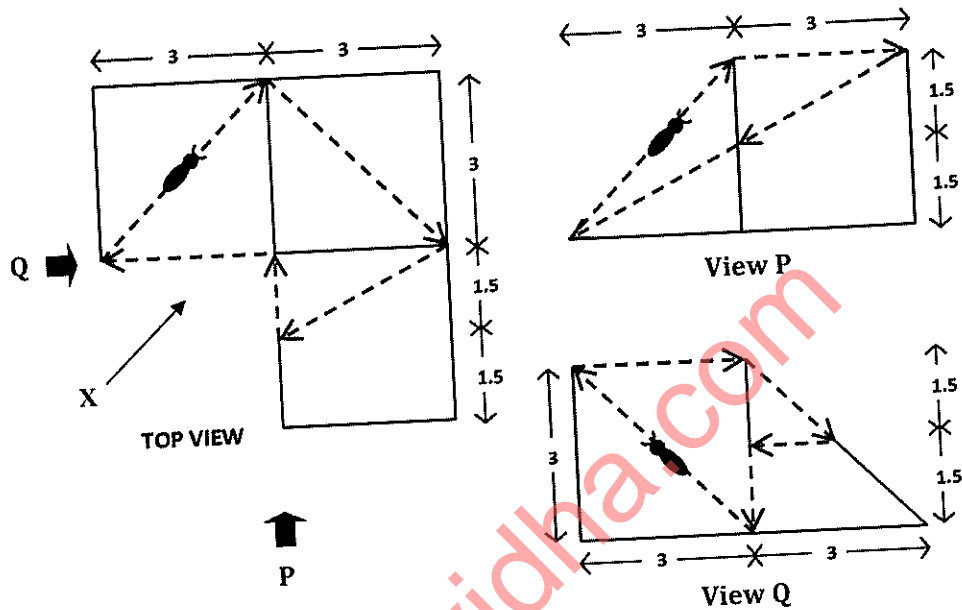### SECTION C: 3D Perception (Maximum Marks: 60)
This section contains THREE (03) questions. Each question carries 20 marks

Q.8 The top view, and view from P and Q of a three-dimensional object are given below. The dashed line with the arrows indicates the path of an ant over the surface of the object. Develop the three dimensional isometric view from 'X' direction of the object and trace the path of the ant. All dimensions are in centimeter.
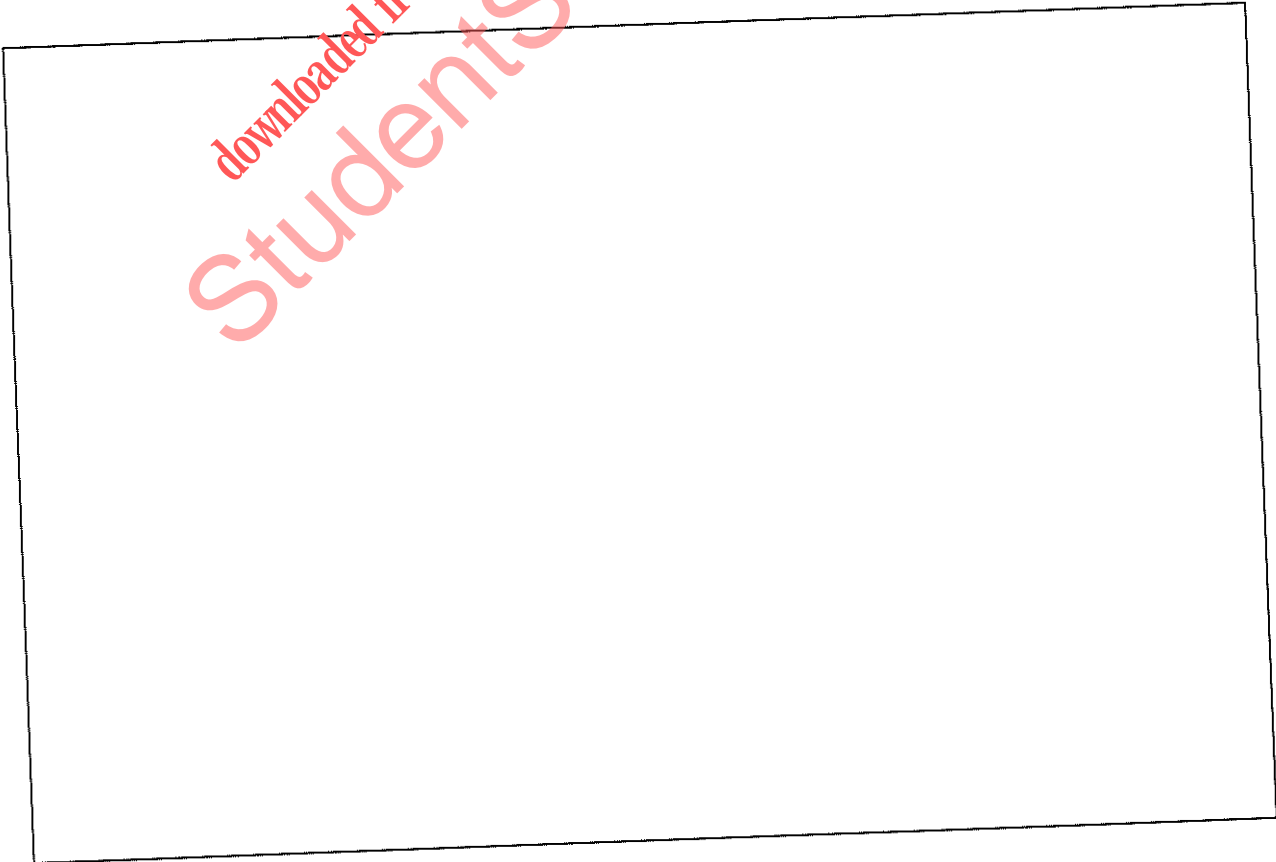

TOP VIEW

P

View P

View Q

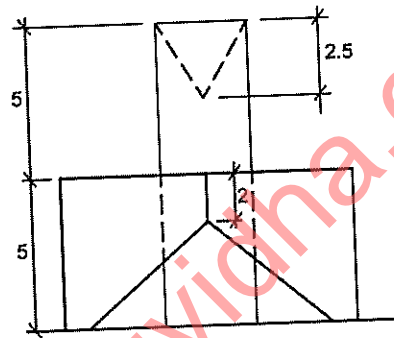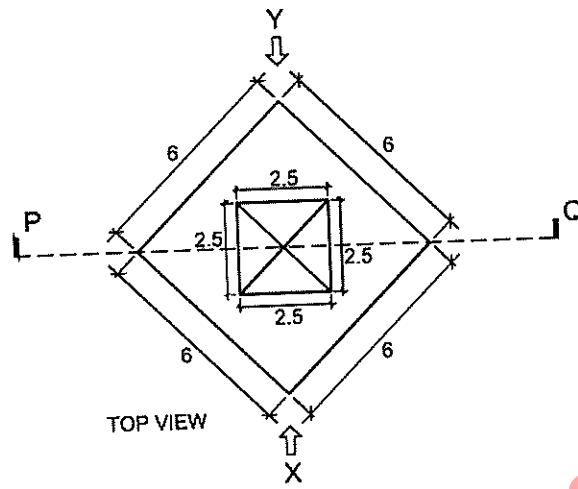Q.9   Draw the top view of the Kdron whose 3D angular front view with dimensions is shown below
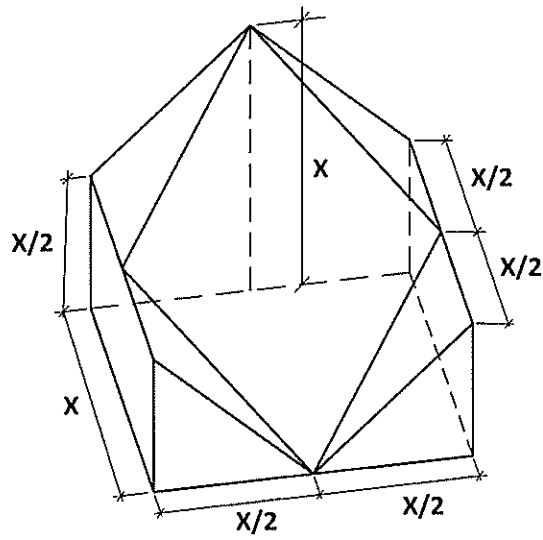
Q.10 The top view and the elevation from 'X' direction of objects are given below. The object is identical both from 'X' and 'Y' direction. Draw the sectional view of the object when cut through PQ.

TOP VIEW

ELEVATION FROM X DIRECTION

SECTION D: Imagination and Aesthetic Sensitivity (Maximum Marks: 60)
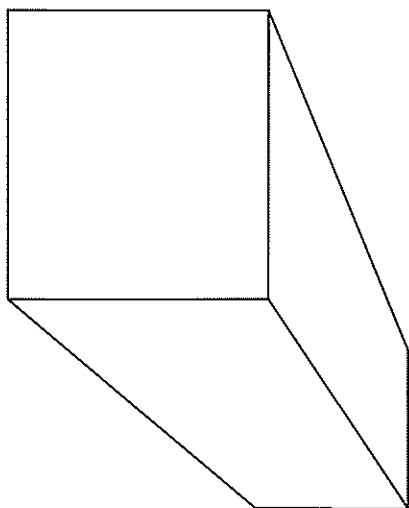This section contains THREE (03) questions. Each question carries **20** marks

Q.11   Air, water, sun, trees constitute the natural environment which interact with building to create built environment for good living. However, often we are ignorant of the environment and forget to value them. Therefore Water, Tree and Building are worried about this ignorance. Make an imaginary conversation between Water, Tree and Building about their concerns and add a concluding remark in the space provided below

Building
Water/Tree
Tree/Water
Building
Tree/Water
Water/Tree
Concluding remark

Q.12 Segregating domestic waste into bio-degradable and non-bio degradable components at home is one of the goal in **Swachh Bharat Mission** because **segregation at source** leads to effective waste collection and its management. In order to sensitise citizens, municipal authority wishes to make a poster campaign about this. Design a coloured poster to convey the message in the space given below.

Q.13 Develop the bird's eye view of a city with the associated elements, using the partial figure and colour it appropriately.

SECTION E: Freehand Drawing (Maximum Marks: 60)

This section contains **THREE (03)** questions. Each question carries **20** marks

Q.14 Draw a freehand realistic pencil sketch of a spoon dipped partially in a transparent glass half filled with clear water.

Q.15   You have a foreign friend in social media. She does not have much idea how Indian schools look like. Make a freehand sketch of your school to share with your friend.

Q.16 Draw a coloured freehand sketch of a village fair.

END OF THE QUESTION PAPER

SPACE FOR ROUGH WORK ONLY

SPACE FOR ROUGH WORK ONLY

SPACE FOR ROUGH WORK ONLY

SPACE FOR ROUGH WORK ONLY

SPACE FOR ROUGH WORK ONLY

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Section-wise Distribution of Marks

Sections	Question No.	Page No.	Maximum Marks	Marks Obtained
Section A (Architectural Awareness)	Q. 1	3 - 7	30	
	Q. 2	8	10	
	Q.3	9	10	
	Q.4	10	10	
Section B (Geometrical Drawing)	Q.5	11	20	
	Q.6	12	20	
	Q.7	13	20	
Section C (Three Dimensional Perception)	Q.8	14	20	
	Q.9	15	20	
	Q.10	16	20	
Section D (Imagination and Aesthetic Sensitivity)	Q.11	17	20	
	Q.12	18	20	
	Q.13	19	20	
Section E (Freehand Drawing)	Q.14	20	20	
	Q.15	21	20	
	Q.16	22	20	
TOTAL MARKS			300	