Seat No.	

Set **P**

B. Architecture (Semester - I) (New) (CBCS) Examination: March/April - 2026
Human Settlement Planning (21AR1-04)

Day & Date: Tuesday, 12-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat sketches wherever necessary.
3) Figures to the right indicates full marks

Q.1 Choose the Correct Option. **07**

1) Athens is historically known as the birthplace of _____.
a) Democracy b) Monarchy
c) Republic d) Empire

2) Madurai is historically known for being a prominent _____.
a) Trade port b) Temple town
c) Fort city d) Colonial settlement

3) Rural settlements are mainly based on _____.
a) Industry b) Agriculture
c) Trade d) Transport

4) Tools made of polished stone belong to the _____.
a) Mesolithic Age b) Neolithic Age
c) Palaeolithic Age d) Iron Age

5) The Roman city of Timgad is known for _____.
a) Irregular layout b) Grid pattern planning
c) Circular plan d) Organic growth

6) Rothenberg in Germany is known as a _____.
a) Port city b) Fortress town
c) Religious capital d) Industrial city

7) Physical evolution of humans mainly refers to _____.
a) Development of agriculture
b) Changes in body and posture over time
c) Formation of cities
d) Social grouping

Q.2 Write Short Notes. (Any Three) **15**

a) Tony Garnier's Factory Town
b) Features of Renaissance cities
c) City of Kahun
d) Natural environment and built environment

Q.3 Answer the following. (Any Four) **48**

a) Describe the development of prehistoric settlements - Palaeolithic, Mesolithic, and Neolithic.
b) Define human settlement. Sketch and describe dispersed, nucleated, and linear patterns of settlement.
c) Discuss the different phases of human settlement.
d) Describe ancient Indian settlements of Ajanta and Ellora.
e) Discuss the elements of civilization.

Seat No.	

Set **P**

B. Architecture (Semester - I) (New) (CBCS) Examination: March/April - 2026
Theory of Structure – I (21AR1-03)

Day & Date: Thursday, 14-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.

Q.1 Choose the correct alternatives. **07**

1) Which of the following is NOT considered a structural component?
a) Columns b) Beams
c) Paint d) Slabs

2) Dead loads are defined as _____.
a) Temporary loads during construction
b) Loads that are always present
c) Loads from occupancy
d) Loads due to wind and earthquakes

3) Which system of units is primarily used in structural engineering?
a) Imperial System b) SI Units
c) Both a) and b) d) None of the above

4) Which IS code provides guidelines for wind load calculations?
a) IS 1893 b) IS 875 Part 3
c) IS 456 d) IS 16700

5) The composition of forces refers to _____.
a) Adding forces together to find a resultant
b) The study of different force systems
c) Analyzing the effects of force on different materials
d) The resolution of a force into components

6) The condition for a system of concurrent forces to be in equilibrium can be mathematically represented as _____.
a) $\Sigma F = 0$ b) $\Sigma M = 0$
c) Both $\Sigma F = 0$ and $\Sigma M = 0$ d) None Of the above

7) A beam that is fixed at one end and free at the other is known as a _____.
a) Simply supported beam b) Cantilever beam
c) Overhanging beam d) Continuous beam

Q.2 Solve the following. (Any Three) **15**

a) Define
   a) Principle of Transmissibility
   b) Principle of Superposition
   c) Resolution and Composition of forces

b) Explain the analytical method for determining the centroid of a composite section.

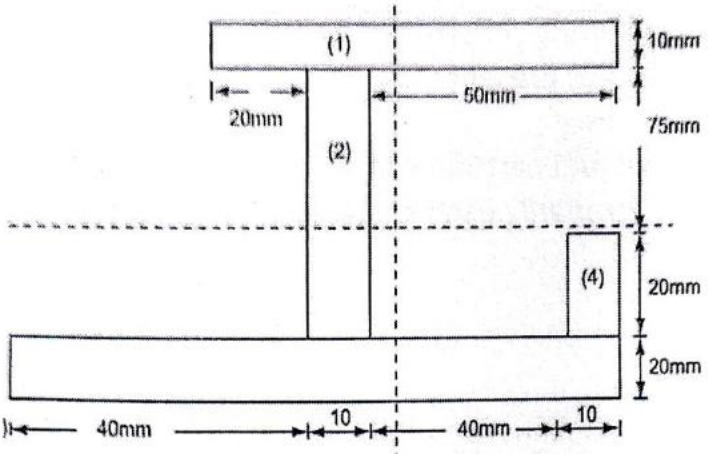
c) Explain the polar and funicular polygon diagram and What is Bow's Notation in graphic statics?

d) Define a beam. What are the different types of supports used in beams.

Q.3 Solve any four of the following. **48**

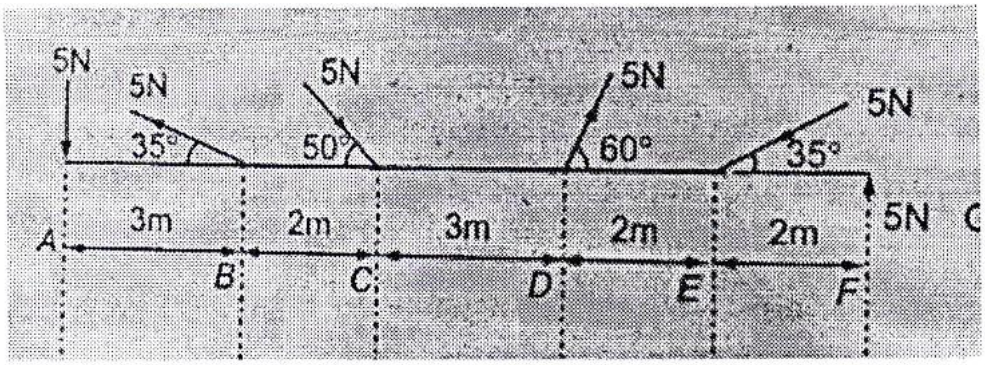
a) Write a note on components of building.

b) Determine the position of centroid

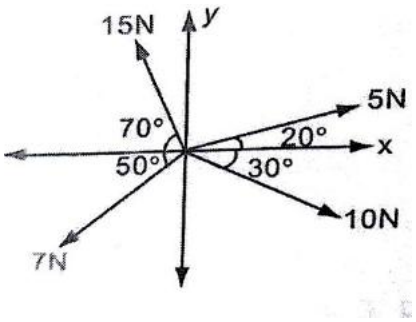


c) A sphere weighting 300 N is supported by two planes. One vertical (plane AB) and another (plane CD) is inclined at 50°to the horizontal. Calculate reaction of the plane.

d) Calculate the resultant of given non concurrent forces analytically.



e) Calculate resultant of given coplanar concurrent forces by analytically.



Seat No.	

Set P

B. Architecture (Semester - I) (New) (CBCS) Examination: March/April - 2026
Building Construction and Material – I (21AR1-02)

Day & Date: Saturday, 16-05-2026 Max. Marks: 100
Time: 10:00 AM To 02:00 PM

Instructions: 1) Draw neat sketches wherever necessary.

Q.1 Choose the correct answer and fill in the blanks: **05**

1) _____ bricks are specially shaped to cap the top of a wall or chimney.
a) Bullnose b) Soldier
c) Coping d) Header

2) The Longitudinally cut half brick is called _____.
a) king closer b) half bat
c) queen closer d) quarter bat

3) Simple sand filling technique for black cotton soil foundation is adopted when the is expansive but has little _____ pressure.
a) flowing b) swelling
c) shifting d) turning

4) _____ is a structure designed to restrain soil or any engineering fill material at a slope or angle steeper than it can hold naturally.
a) Parapet wall b) Retaining wall
c) Defense wall d) Compound wall

5) The part of the structure above the ground level is known as _____.
a) super structure b) sub structure
c) elevated structure d) floating structure

Q.2 Draw, label and dimension (Any Two) **30**

a) Draw to the scale (1:10) Plan and Section of the following.
i) Brick Spread footing for 23cm×23cm brick pier.
ii) Strip footing for 23cm thick brick wall over UCR footing

b) Draw section to the scale (1:10) of the following:
i) 23cm thick Brick mass retaining wall 140cms high above ground level for cohesive soil
ii) Dry stone retaining wall 180cms above ground level considering: Top width=60cm and Bottom width =100cm

c) Draw to the scale (1:10) Plan (odd and even course), Elevation and isometric view of one-brick thick Flemish bond.

Q.3 With neat sketches write short notes on. **25**

a) Through/Bond stone.
b) Coping for parapet wall
c) Queen closer and King closer.
d) Failure of retaining wall
e) Foundation in Black cotton soil having little swelling pressure

Q.4 Choose the correct answer and fill in the blanks **05**

1) _____ bricks used in tunnel projects, sewers and manholes.
a) Engineering b) Fly ash
c) Fire d) Facing

2) The process of taking out of stones from natural rock beds is known as _____.
a) Dressing b) Quarrying
c) Digging d) Assembling

3) _____ method of boring is used for cohesive and soft soils which are manually or mechanically operated.
a) Auger b) Wash
c) Percussion d) Rotary

4) The sand which passes through 7.62mm sieve is called as _____.
a) Fine sand b) Gravel sand
c) Coarse sand d) extremely fine sand

5) _____ is essentially a dried mud brick.
a) Adobe b) CSEB
c) Fly ash d) Aerated

Q.5 Answer in Details (Any Two) **20**

a) Methods of quarrying of stones
b) Methods of Soil Exploration
c) Manufacturing process of brick

Q.6 Write short notes. **15**

a) Angle of repose of soil
b) Properties of brick
c) Bulking of sand

Seat No.	

Set **P**

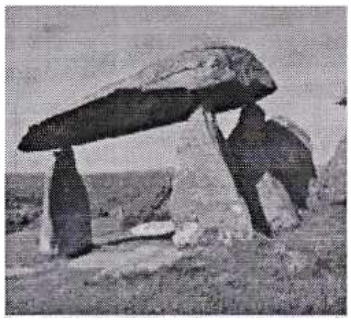
B. Architecture (Semester - II) (New) (CBCS) Examination: March/April – 2026
History of Architecture – I (21AR2-04)

Day & Date: Friday, 22-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat sketches wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Choose The Correct Option. **07**

1) Identify the following Prehistoric Monument.

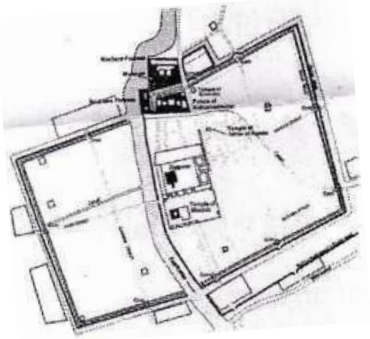


a) Mastaba b) Stone Henge
c) Dolmen d) Passage Grave

2) The Aryans Village Gateway _____.
a) Lion Gate b) Ishtar Gate
c) Cow Gate d) Cromlech

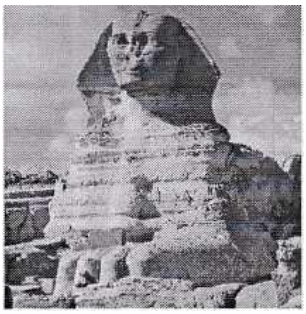
3) Capital city of Mauryan empire _____.
a) Magadha b) Kashi
c) Pataliputra d) Vaishali

4) Identify the following plan.



a) Citadel of Tiryns b) City of Babylon
c) King Minos palace complex d) City of UR

5) Identify the following.



a) Obelisk
b) Sphinx
c) Mastaba
d) KA

6) _____ Civilisation is termed as Quen of all Civilisation.

a) Indus Valley
b) Greek
c) Mauryan
d) Babylon

7**)** Identify the following _____.

a) Palace of Sargon II
b) Palace Tiryns
c) Palace of king Minos
d) Palace of Persepolis

Q.2 Write Short Notes. (Any Three) **15**

a) Temple of Juno Sospito
b) Ziggurat at UR
c) Lion Gate & Cow Gate
d) Terra Amata

Q.3 Answer the following in detail. (Any Four) **48**

a) Explain the Characteristic features of Egyptian temple and Tomb Architecture.
b) Draw neat labelled sketch of temple of Great Stupa at Sanchi? Explain the different parts of the Stupa.
c) Explain the town planning and Housing in Mohenjo-Daro city.
d) Explain the funerary architecture of Prehistoric time period.
e) i) Draw neat and labelled plan and section sketch of Chaitya Hall at Karle, Name its different Component parts.
ii) Draw neat and labelled section of Pyramid of Cheops.

SLR-QF-5

Seat No.	

Set P

B. Architecture (Semester - II) (New) (CBCS) Examination: March/April – 2026
Theory of Structure – II (21AR2-03)

Day & Date: Monday, 25-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.

Q.1 Choose the correct alternatives. **07**

1) A cantilever beam of span 'L' subjected to point load 'P' at free end has maximum shear force equal to _____.
a) P b) P×L
c) P/L d) P×L /2

2) In stress -strain diagram the strain is proportional to stress is called as _____.
a) Elastic limit b) Plastic limit
c) Upper yield point d) None of these

3) Moment of Inertia of Rectangular section having width b and depth d about horizontal centroidal axis is _____.
a) $db^3/12$ b) $bd^3/12$
c) $db^3/6$ d) $bd^3/6$

4) As per IS 456:2000 Strength of concrete of M20 grade after 28 days is _____.
a) 13.5 N/mm2 b) 15 N/mm2
c) 20 N/mm2 d) 25 N/mm2

5) The variation of shear stress distribution across any section is _____.
a) Linear b) Cubic
c) Parabolic d) Hyperbolic

6) Which of the following is dimensionless property?
a) Shear stress b) Strain
c) Modulus of Rigidity d) Normal stress

7) Condition of Pure bending takes place in a region of beam if _____.
a) shear force is zero at that region
b) Bending moment is constant at that region
c) Both (a) and (b)
d) None of these

Q.2 Solve the following. (Any Three) **15**

a) Write a note on stress - strain curve of mild steel.

b) Explain material properties of Steel and concrete.

c) Enlist the formulas of Moment of Inertia about its centroidal axis for following cases

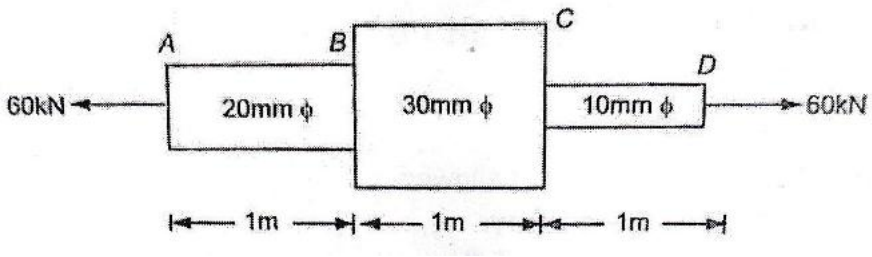
i) Hollow Rectangular Section

ii) Hollow Circular section

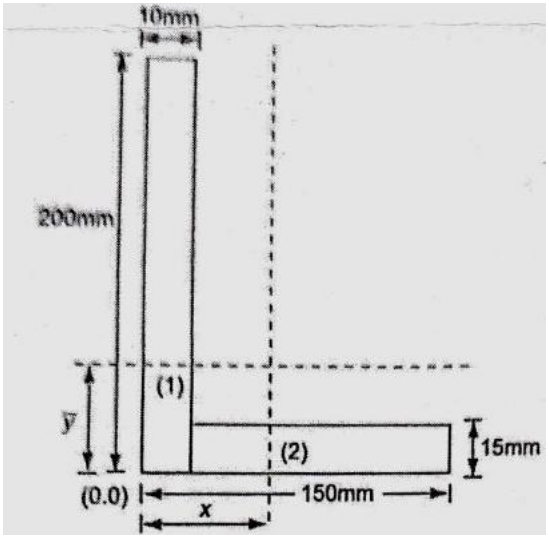
d) Write Assumption made in pure bending.

Q.3 Solve the following. (Any Four) **48**

a) A bar is as shown in Figure subjected to axial tensile force of 60kN. Calculate the total elongation if $E = 1.5 \times 10^6$ Mpa. Also calculate stress in AB, BC CD.

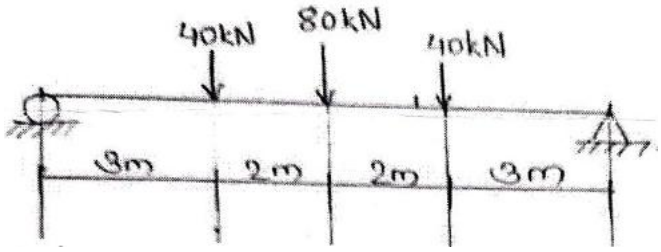


b) Find Moment of Inertia of Following Fig. about its horizontal and vertical axis passing through its C.G.



c) A rectangular c/s beam of size 300 × 500 mm is subjected to shear force of 20 kN. Calculate maximum shear stress, average shear stress and shear at 150 mm above N.A. Show stress distribution diagram.

d) Draw SFD and BMD of Following Figure.



e) A beam of 200mm wide and 400mm deep is simply supported over a span of 3 m. it carries a UDL of 19 kN/m over entire span of 3 m. Find the maximum stress induced in section. Draw bending stress distribution diagram.

Seat No.	

Set P

B. Architecture (Semester - II) (New) (CBCS) Examination: March/April – 2026
Building Construction and Material – II (21AR2-02)

Day & Date: Wednesday, 27-05-2026 Max. Marks: 100
Time: 02:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat sketches wherever necessary.
4) Q.No.2 has to be compulsorily drafted on sheets provided by the university.

Q.1 Choose the correct answer. **05**

1) _____consists of wedge shaped units joined together with mortar and are constructed to span across an opening.
a) Staircase b) Window
c) Door d) Arch

2) _____ is a horizontal structure supporting member which is provided over opening to support the weight of the super imposed masonry.
a) Lintel b) Chajja
c) Porch d) Portico

3) _____ is a vertical member which is employed to subdivide a window opening vertically.
a) Rail b) Transom
c) Mullion d) Style

4) _____ is the vertical member which is fixed between string and handrail to give support to the handrail
a) Baluster b) Tread
c) Rise d) Waist slab

5) _____ are the wooden pieces which are placed horizontally on principal rafters to carry the common rafters.
a) Cleats b) Rafters
c) Purlins d) Eaves

Q.2 Draw and Label. (Any Two) **30**

a) Draw plan, elevation and section of paneled door with glazing consider 1.2 mtr wide opening and 2.1 meter in height.
b) Draw to appropriate scale a plan and section of staircase and label its parts.
c) Draw to appropriate scale -plan and sectional elevation of any 5 different types of arches based on centre.

Q.3 With neat sketches write short notes on. **25**

a) Differentiate Arches and Lintels
b) Frame, Shutter, Battens, Panel, Styles
c) Riser, Tread, Winders Waist Slab, Headroom
d) Differentiate between flat roof and pitched roof
e) Ladder, Ramp, Stair, Lift, Escalator

Q.4 Choose the correct answer. **05**

1) Gypsum is added to cement to _____.
a) Increase strength b) Reduce strength
c) Increase initial setting time d) Decrease initial setting time

2) Unslaked lime is chemically known as _____.
a) Calcium carbonate b) Calcium oxide
c) Calcium hydroxide d) Calcium sulphate

3) The mixture of equal volumes of lime and sand is known as _____.
a) Lime mortar b) Cement mortar
c) Water-proof mortar d) Special mortar

4) The grain of each layer in plywood is arranged _____.
a) In the same direction
b) At right angles to the adjacent layer
c) Randomly
d) Vertically only

5) Which joint is employed to extend the length of a member by joining two pieces of timber?
a) Lapped b) Angel
c) Lengthening d) Bearing

Q.5 Answer in Detail. (Any Two) **20**

a) Explain in brief the manufacturing process of lime.
b) How is lime mortar prepared?
c) Explain in brief the manufacturing process of cement.

Q.6 Write Short Notes. **15**

a) Uses of Cement
b) Uses of Lime
c) Uses of Timber

Seat No.	

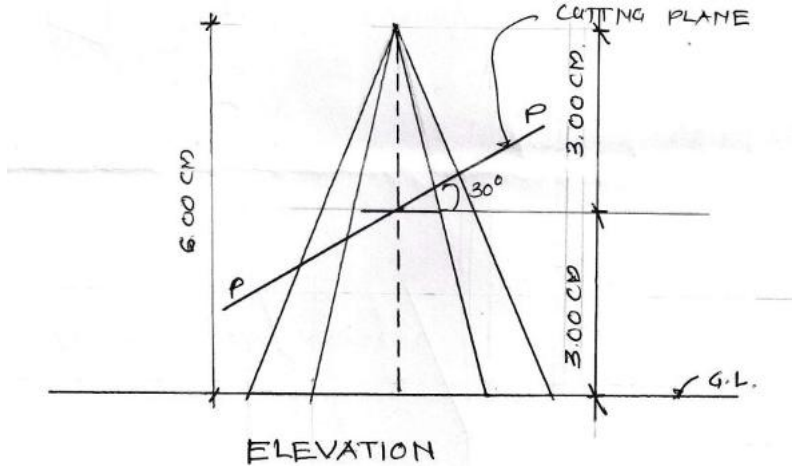
Set P

B. Architecture (Semester - II) (New) (CBCS) Examination: March/April – 2026
Architectural Graphics and Drawing – II (21AR2-05)

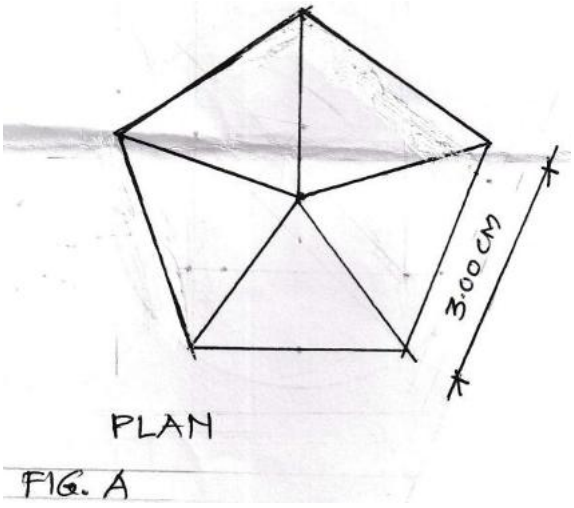
Day & Date: Friday, 29-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Retain all construction lines.
3) Figures to the right indicate full marks.
4) Five marks are reserved for neatness and good drafting.
5) Make suitable assumptions wherever necessary.

Q.1 A plane cuts the object as shown in Fig. A at PP, Draw plan and sectional elevation (front and side Elevation) of the cut object (scale - 1:1). **25**



ELEVATION

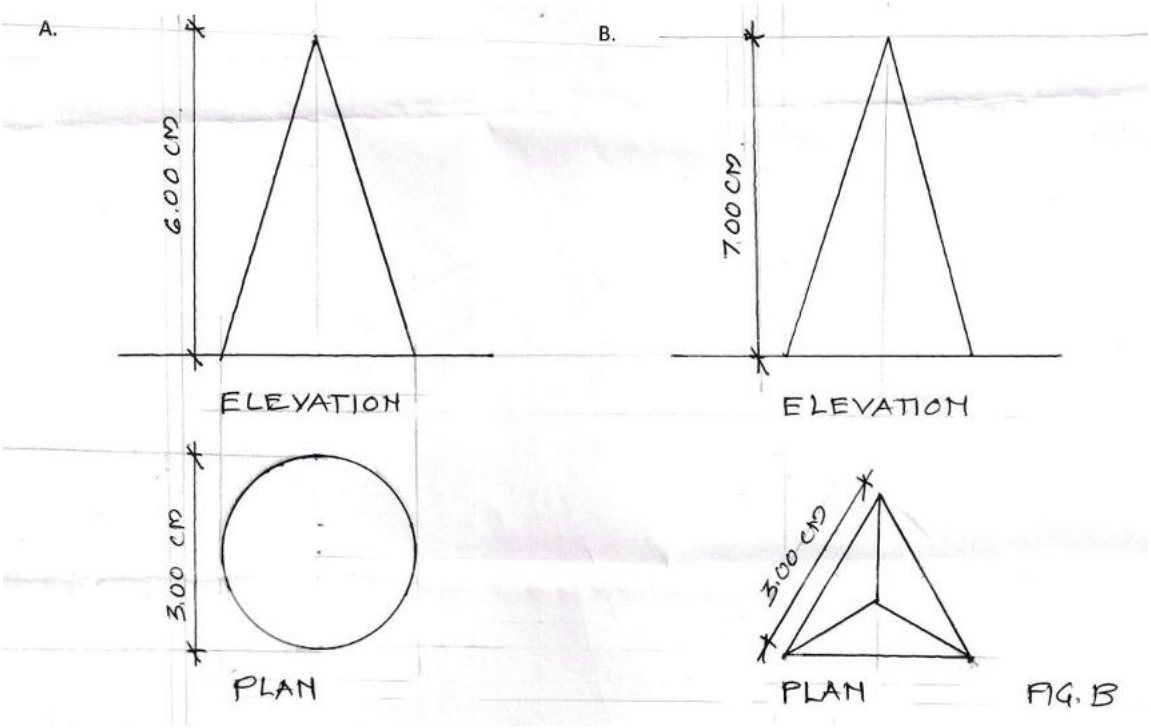


PLAN

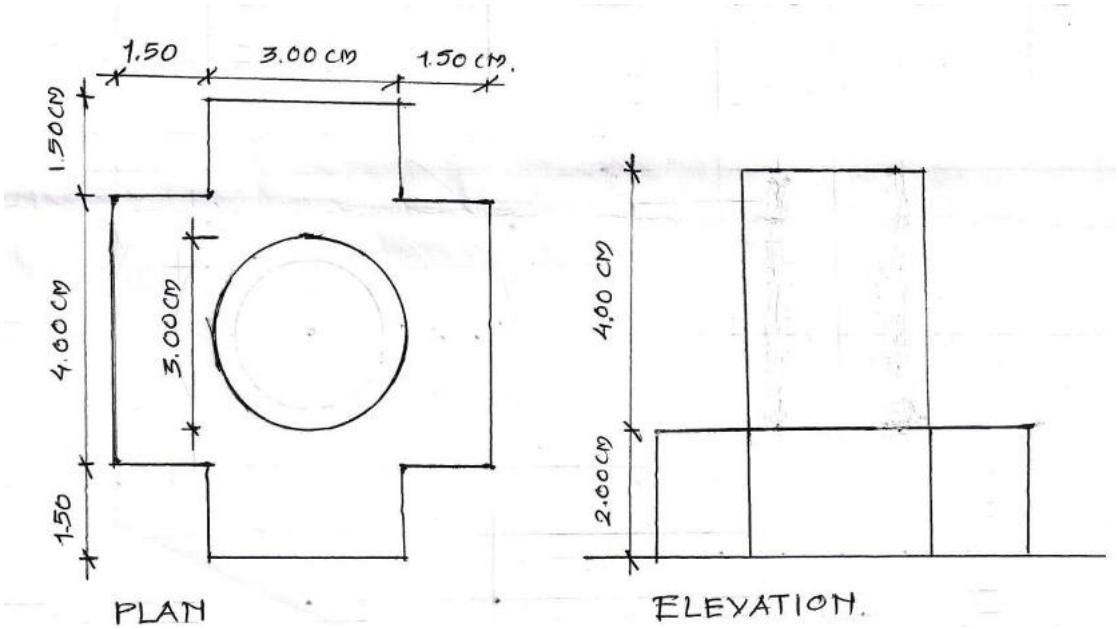
FIG. A

Q.2 Draw true cut portion or development of surface of cut object from Q. No. 1 of Fig. A. (Scale - 1:1). **10**

Q.3 Draw the development of surfaces of the following objects in Fig. B (Scale - 1:1). **10**



Q.4 Draw isometric view of the object shown in Fig. C. **15**



Q.5 Mention the no. of surfaces of the following objects as shown in Fig. D. **05**

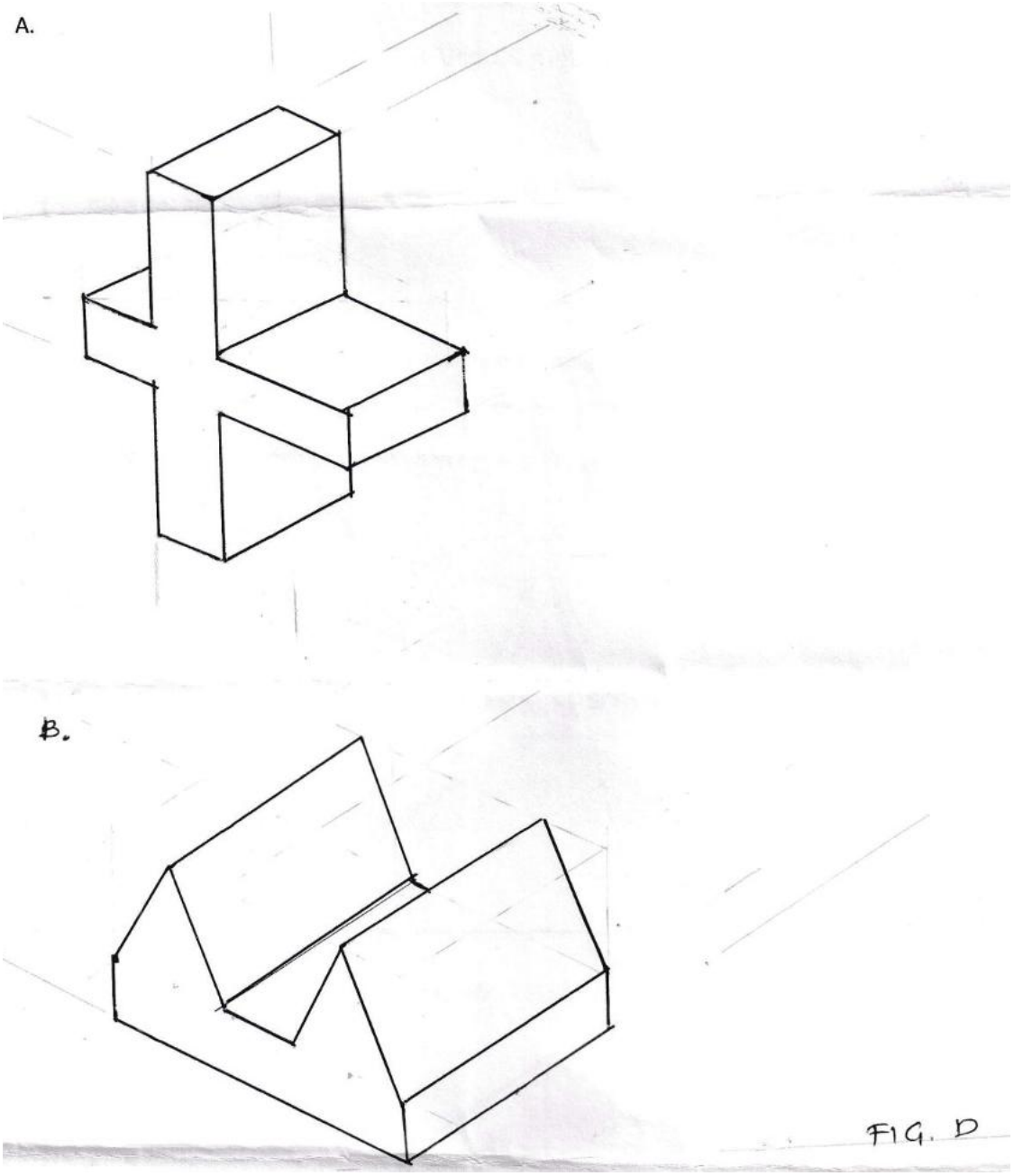


FIG. D

Seat No.	

Set **P**

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April - 2026
Building Services – I (21AR3-07)

Day & Date: Monday, 11-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All question are compulsory.
2) Figure to the right indicates full marks.

Q.1 Choose the correct option. **07**

1) _____ prevents backflow of water in pump systems.
a) Air valve b) Non-Return valve
c) Gate valve d) Check meter

2) _____ uses both gravity and pumping for water distribution in a G+2 building.
a) Direct pumping system
b) Gravity system
c) Dual system/Combined System
d) Overhead system

3) The overflow from a septic tank is usually directed to a _____.
a) Manhole b) Soak pit
c) Open drain d) Stormwater line

4) _____ is the last inspection point before sewage enters the municipal line.
a) Soak pit b) Inspection chamber
c) Manhole d) Intercepting chamber

5) _____ is the water supply system that uses pressure from air and pumps for delivery.
a) Gravity system b) Pneumatic system
c) Hydro-pneumatic system d) Pressurized tank system

6) _____ heats water as it flows through it, without storing it.
a) Storage geyser b) Solar heater
c) Instant water heater d) None of the above

7) The entire system of collection of sewage and conveyance to treatment units using sewers is called a _____.
a) water carriage system b) Sanitary plumbing
c) Sewerage system d) Water distribution network.

Q.2 Write short notes on. (Any Three) **15**

a) Ferrule connection and tapping of water from water mains.
b) Design considerations for Underground Water Storage Tank (UGT)
c) P,S and Q Trap
d) Two pipe system of drainage

Q.3 Answer the following. (Any Four)

a) 1) Explain with neat sketches following piping layouts of hot water supply: **06**
   i) Up-feed system
   ii) Down-feed system

2) Explain with neat sketches the following methods of water distribution: **06**
   i) Dead-End System
   ii) Radial System

b) 1) Explain the purpose and application of following special pipe fittings in plumbing systems - reducers, tees, elbows, and unions. **06**

2) List various types of valves used in domestic water systems. Sketch and explain: **06**
   i) Gate Valve
   ii) Pressure Relief Valve

c) Design an overhead water tank for an apartment building with 25 tenements. Draw the plan, elevation, and necessary connections showing all details. **12**

OR

What is a septic tank? Explain its function and working with a neat labelled sketch. Also, mention the typical locations where septic tanks are used. **12**

d) 1) Explain with neat sketches: Manhole **06**

2) Define Vertical drainage system? Enlist the fittings used in a vertical drainage system. State the function of each. **06**

e) 1) List types of pipes based on manufacturing methods. Mention the material used and one key feature of each **06**

2) Discuss the role of anti-siphonage pipe in ensuring hygienic and functional drainage systems in buildings. **06**

Seat No.	

Set P

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April - 2026
Theory of Structure – III (21AR3-03)

Day & Date: Wednesday, 13-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.

Q.1 Choose the correct alternatives. **07**

1) In the case of a continuous beam, the bending moment diagram is generally _____.
a) Consistently linear b) Continuous and curved
c) Stepwise d) Constant throughout

2) What is the primary mode of failure for a slender column?
a) Buckling b) Shear
c) Yielding d) Torsion

3) What is normal stress?
a) Stress parallel to the surface
b) Stress perpendicular to the surface
c) Shear stress
d) Bending stress

4) Resultant stress on an oblique plane is the combination of _____.
a) Normal stress and bending stress
b) Normal stress and shear stress
c) Normal stress and torsional stress
d) Normal stress and axial stress

5) In Mohr's Circle, the vertical axis represents _____.
a) Shear stress b) Normal stress
c) Strain d) Principal stress

6) Deflection of a beam is generally measured in _____.
a) Degrees b) Radians
c) Length units (e.g., mm, m) d) Newton-meters

7) If a truss has 10 members and 6 joints, what is its degree of redundancy?
a) 1 b) 2
c) 3 d) 4

Q.2 Solve the following. (Any Three) **15**

a) Assumption made in Euler's theory.

b) Write a note on Core of the section of rectangular section.

c) Write a note on Mohr's circle method to find principal stresses and maximum shear stresses.

e) Write a note on continuous beam.

Q.3 Solve the following. (Any Four) **48**

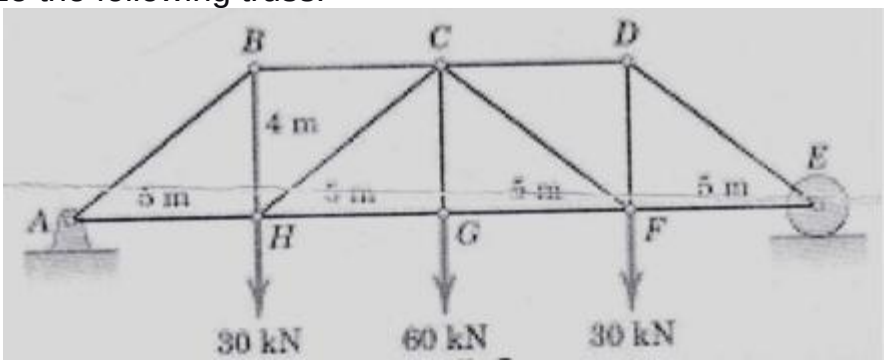
a) A rectangular column is 220mm wide and 150 mm thick which carries a load of 200kN at an eccentricity of 75mm in the plane bisecting the width. Calculate the stresses at corner and additional load such that no tensile stress is produced.

b) Draw SFD and BMD for fixed beam for fixed beam having 6m span subjected to 10kN, and 20kN force acing at 2 m and 3m distance from left hand support respectively.

c) A cantilever of 5m span is imposed with UDL of 10kN/m over entire span and a load at free end of 20kN. Calculate slope and deflection at free end, $\mathrm{EI} = 55 \times 10^3\ \mathrm{kNm}^2$

d) The stresses at point of a machine component are 100 MPa and 75MPa, both tensile. Find the intensities of normal, shear and resultant stresses on a plane inclined at an angle of 55° with the axis of major tensile stress. Also find the magnitude of the maximum shear stress in the component.

e) Analyze the following truss.



Seat No.	

Set **P**

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April – 2026
History of Architecture – II (21AR3-04)

Day & Date: Friday, 15-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Draw neat sketches wherever necessary.

Q.1 Choose the correct option. **07**

1) What type of building is the colosseum?
a) Circus b) An Amphitheater
c) Temple d) Public Baths

2) Khanderiya Mahadev Temple, Khajuraho, Madhya Pradesh is built by _____.
a) Kulakesara Pandyan b) Deva Raya II
c) King Vidyadhara d) Rajaraja I

3) The famous Konark Sun Temple is built in _____ stone.
a) Laterite b) Sand stone
c) Granite d) Lime

4) The one of the most famous Meenakshi Temple at Madurai is an example of _____.
a) Chalukyan Temple b) Dravidian Temple
c) Nagara temple d) Orrisan temple

5) Which Dravidian Style temple is located in Hampi (Vijaynagar)?
a) Pampa Devi Temple b) Vitthala Temple
c) Virupaksh Temple d) Hazara Rama Temple

6) The Following Order is _____.
a) Ionic order b) Corinthian order
c) Composite order d) Doric order

7) The Dashawatara Temple is located at _____.

a) Sanchi b) Zodge

c) Udayagiri d) Deogarh

Q.2 Write short notes on the following. (Any Three) **15**

a) Pantheon, Rome

b) Characteristics features of Chalukyan Shiva Temple (Lad Khan Temple), Aihole

c) Features of Greek Theater at Epidaurus

d) Dome of Hagia Sophia

Q.3 Write answer in brief. (Any Four) **48**

a) 1) Discuss about Plan & architectural features of Brihadeshwar Temple, Thanjavur.

2) Sketch & explain Shore Temple, Mahabalipuram, Tamil Nadu.

b) Discuss Elements of Hindu Temple.

c) Sketch & explain Parthenon, Greek

d) Sketch & explain Surya Temple, at Konark

e) Discuss & sketch Old Basilica of St. Peter, Rome

Seat No.	

Set P

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April – 2026
Building Construction and Material – III (21AR3-02)

Day & Date: Monday, 18-05-2026 Max. Marks: 100
Time: 10:00 AM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct answer. **05**

1) How many vertical posts are there in a queen-post truss?
a) Six b) Four
c) Two d) Three

2) The vertical portion between each tread on the stair is called _____.
a) Going b) Nosing
c) Riser d) Winder

3) In a king-post truss _____ prevent the purling from tilting.
a) Cleats b) Rafters
c) Pole plates d) Purlins

4) What does R.C.C. stand for?
a) Reinforced Concrete Cement
b) Reinforced Cement Concrete
c) Reinforced Constituent Cement
d) Reinforced Combined Cement

5) _____ Flooring is just similar to Moorum flooring except that mud is used in place of Moorum.
a) Murum b) Mud
c) Plastic d) Stone

Q.2 Draw and Label. (Any Two) **30**

a) Draw scaled and detailed section of waterproofing for toilet, terrace, and balcony. (scale 1:20)

b) Draw a RCC waist slab staircase for a residential building where the floor height is 3.30 meters, including a 150 mm thick slab. Provide drawings for the plan and sectional elevation. (Scale 1:20)

c) Draw to scale plan, sectional elevation of king post truss for span of 6.0 mtr. Draw details of joints at ends and ridge. (Scale 1:20)

Q.3 Write short notes with sketches wherever necessary. **25**

a) Define Eaves board, common rafter, battens, wall plate and ridge piece.
b) Distinguish between Framed structure and Load bearing structure.
c) Define Nosing, Pitch, Head room, Newel, Balustrade.
d) Describe causes of dampness.
e) Moorum flooring and Mud flooring

Q.4 Choose the correct answer. **05**

1) Which of the following is the crudest form of iron?
a) Pig iron b) Cast iron
c) Wrought iron d) Dead mild steel

2) In order to prevent the entry of damp into a building, the course is provided are known as the _____ course.
a) Corrosion proofing b) damp proofing
c) Termite proofing d) Water proofing

3) Which of the following is not a variety of pig iron _____.
a) White pig b) Grey pig
c) Pink pig d) Bessemer pig

4) DPC stand for _____.
a) Damp Proof Course b) Damp Proof Cutting
c) Damp Proof Cable d) Damp Proof Case

5) Bitumen is a by-product of _____.
a) Kerosene b) Coal
c) Wood d) Petroleum

Q.5 Answer in detail. (Any Two) **20**

a) What is asphalt? Give its classification and Describe forms/types of asphalt.
b) What is cast iron? Describe its four types, properties and uses.
c) Describe in details any 5 market forms of steel.

Q.6 Write Short Notes. **15**

a) Write short note on thermo-mechanically treated bars (TMT bars).
b) Describe properties of wrought iron.
c) Describe forms/types of bitumen.

Seat No.	

Set **P**

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April – 2026
Climatology And Environment – I (21AR3-08)

Day & Date: Wednesday, 20-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All question are compulsory.
2) Figures to the right indicate full marks.
3) Write question numbers correctly and neatly.
4) Draw neat sketches wherever necessary.
5) Calculator to be allowed in the examination hall.

Q.1 Choose and write the correct answer. **07**

1) Equinox is _____.
a) Day and night of unequal length
b) Day and night of equal length
c) All of these
d) None of these

2) Temperature of the air is measured in _____.
a) Sq. Mtr b) %
c) *C d) Hrs

3) _____ heat flow takes place due to heat transmission from body to air in contact with skin.
a) Conduction b) Convection
c) Radiation d) Evaporation

4) Psychometric chart helps us to know the values of _____.
a) Humidity b) Temperature
c) Vapour pressure d) All of these

5) Human beings generally feel comfortable in temperatures ranging between _____.
a) 43*c - 49*c b) 22*c - 27*c
c) 24*c - 30*c d) 7*c - 12*c

6) Thermal balance exists when Met−Evp±Cnd±Cnv ±Rad= _____.
a) Zero b) Less Than Zero
c) More Than Zero d) None of These

7) _____ city in India experiences warm and humid climate.
a) Jaisalmer b) Shimla
c) Mumbai d) New Delhi

Q.2 Write Short answers. (Any Three) **15**

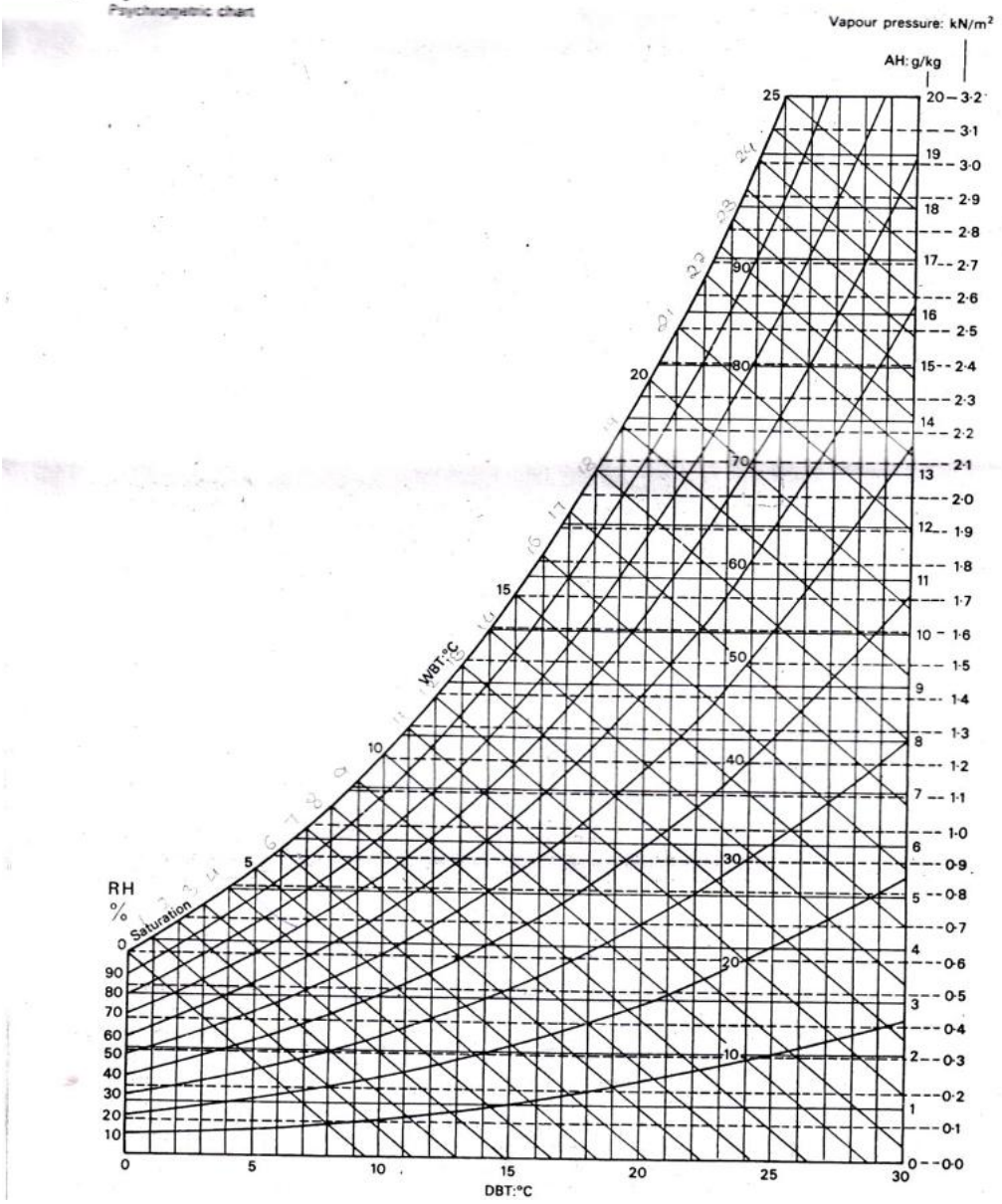
a) Earths Thermal Balance
b) Temperature
c) Bio -climatic chart
d) Heat, Specific heat, Latent heat

Q.3 Answer in Brief with detailed sketches wherever necessary. (Any Four) **48**

a) Define Climate and Weather. Distinguish between climate and weather and mention the various elements that effect climate.
b) Explain the Characteristics of hot and dry climate in Indian tropical subcontinent region. with an example
c) Describe heat exchange process of building with outdoor environment.
d) i) Find AH, VP RH when, WBT - 5*C, DBT-11*C
ii) Find VP, WBT, RH when AH- 6 g/kg, DBT - 17*C.
e) A 5×5 m and 2.5m high office is located on an intermediate floor of a large building, therefore it has only one exposed wall facing South, all other walls adjoint rooms kept at the same temperature Ti=20*C the ventilation rate is three air changes per hour, three 100 W bulbs are in continuous use to light the rear part of the room, which is used by four clerical workers, (assume 140 Watts). The exposed 5×2.5 m wall consists of a single glazed window 1.5×5 m =7.5 m2 U=4.48W/m2 deg C And a clinker concrete spandrel wall ,200 mm, rendered and plastered, 1×5 m =5m2, U= 1.35 W/m2 deg C.

Calculate the amount of heat to be provided by installing a heating equipment.

16 Fig 12
Psychrometric chart



1.2.10 Solar radiation: measureme

1.2.11 Solar radiation: data

1.2.12 Wind: measureme

1.2.13 Wind: data

Seat No.	

Set **P**

B. Architecture (Semester - III) (New) (CBCS) Examination: March/April – 2026
Architectural Graphics and Drawing – III (21AR3-05)

Day & Date: Friday, 22-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

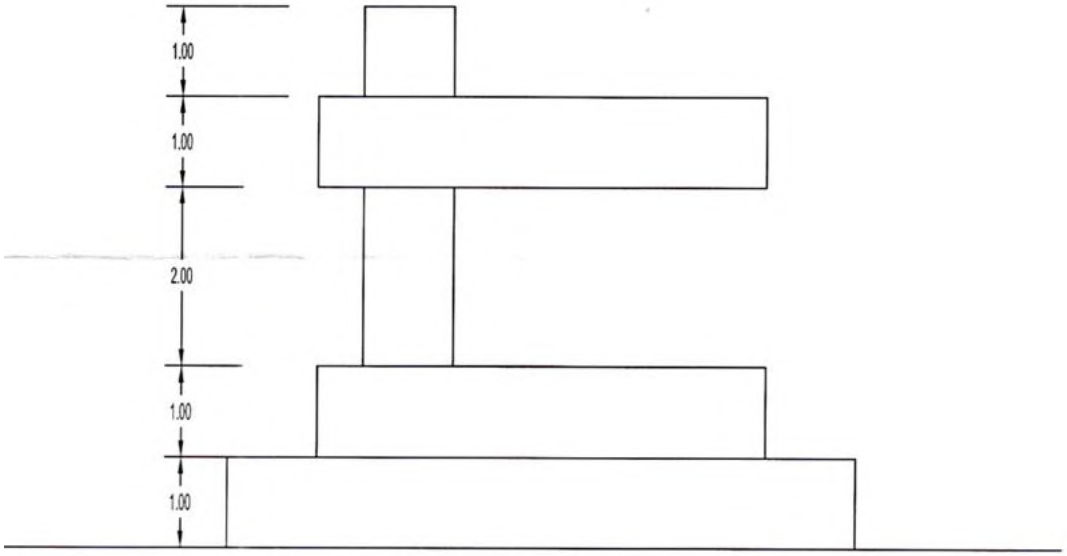
Instructions: 1) All questions are compulsory.
2) Retain all construction lines.
3) Figures to the right indicate full marks.
4) Five marks are reserved for neatness and good drafting quality.
5) Make suitable assumptions wherever required.

Q.1 Draw perspective view for the object in Figure - A observing following points/conditions. **20**

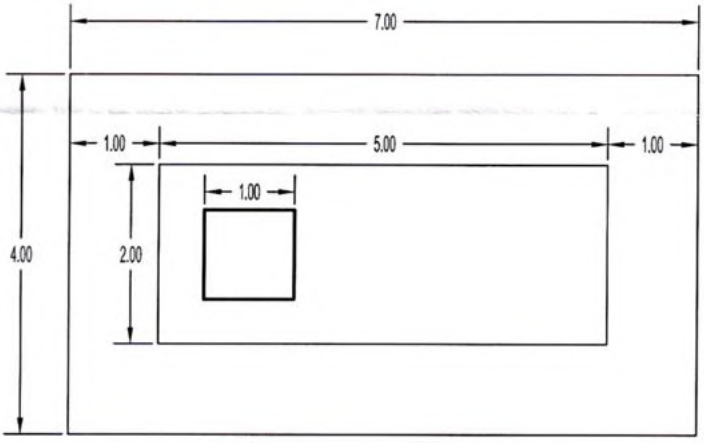
Q.2 Draw sociography of the following object in Figure - B observing the source of the light is in conventional direction on the vertical and horizontal planes in plan and elevation. **20**

Q.3 Draw perspective view of the object in Figure-C along with shade and shadow Considering the source of light is in conventional direction on the vertical and Horizontal planes of the given object. **25**

FIG A



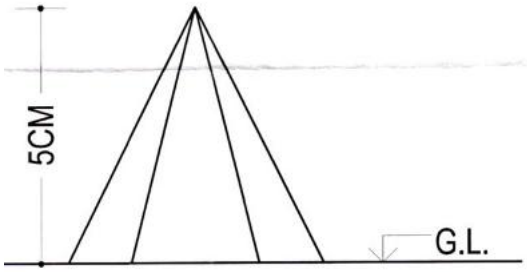
ELEVATION



PLAN

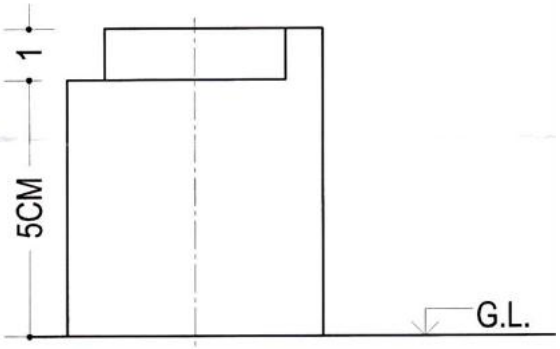
Fig B)

1)

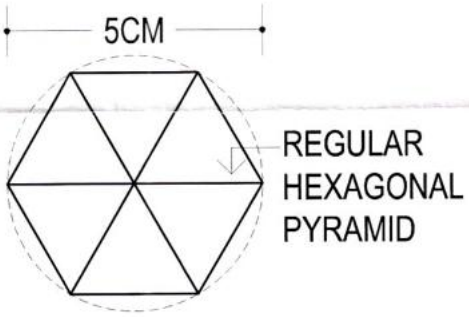


ELEVATION

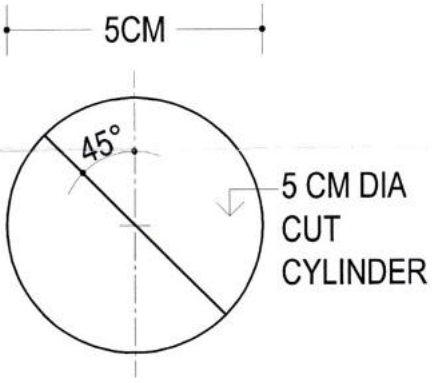
2)



ELEVATION

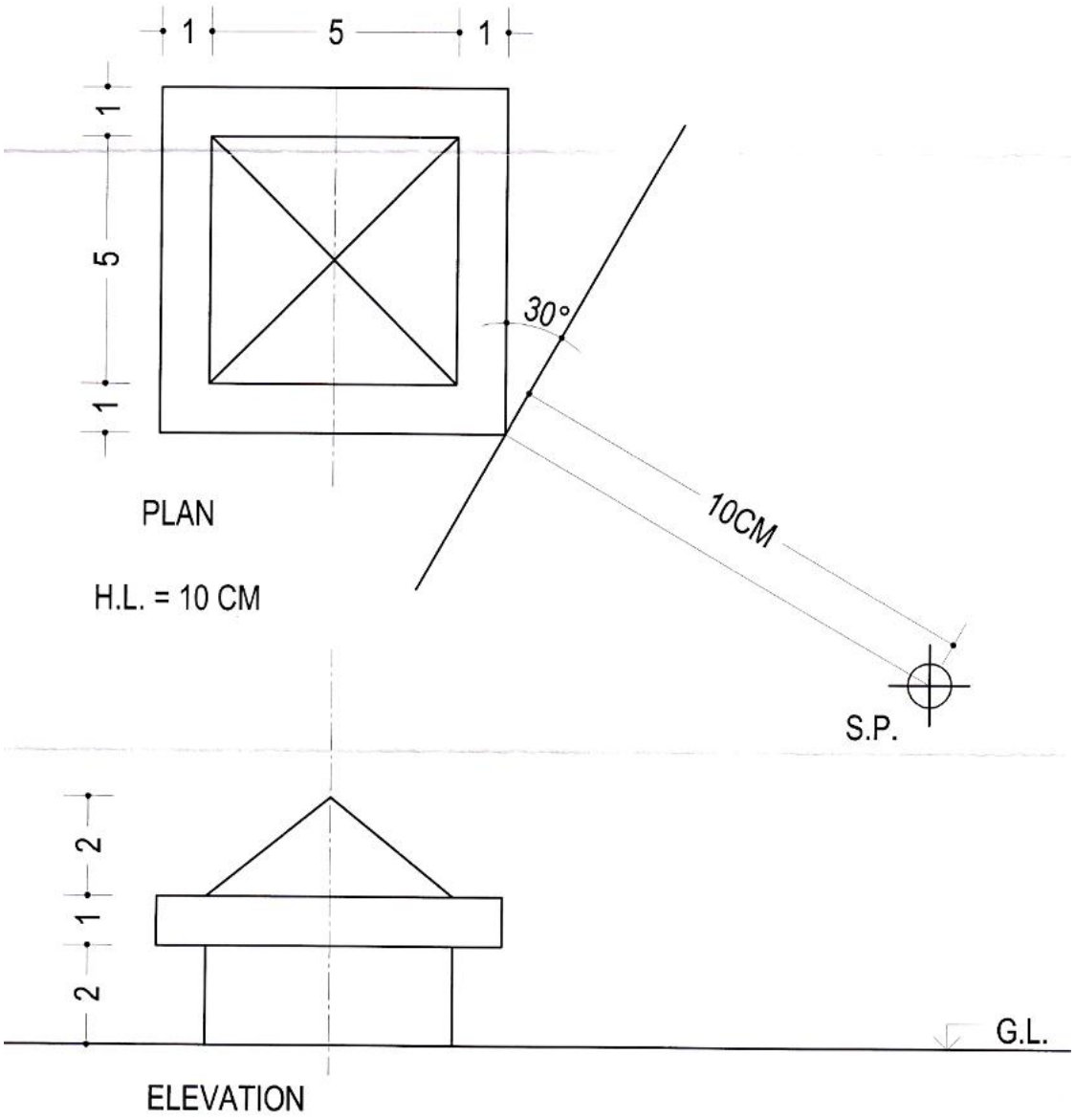


PLAN



PLAN

Fig C)



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Set **P**

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
Theory of Structure – IV (21AR4-03)

Day & Date: Tuesday, 19-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.
5) IS 800:2007 is allowed.
6) Steel Tables is allowed.

Q.1 Multiple choice questions: **07**

1) The disadvantage of steel structures is _____.
a) Low strength b) Prone to corrosion
c) Difficult to transport d) Limited to small buildings

2) The limit state of collapse is associated with _____.
a) Safety against failure b) Deflection limits
c) Comfort requirements d) Environmental conditions

3) Torsion in beams is resisted by _____.
a) Increasing cross-sectional area
b) Reducing load factors
c) Using lighter materials
d) None of the above

4) In bolted connections, the failure can occur through _____.
a) Bearing, shear, or tension failure
b) Fatigue only
c) Creep only
d) None of the above

5) The design strength due to block shear failure is determined by _____.
a) Comparing only tensile strength
b) Comparing tensile and shear strengths
c) Considering only shear strength
d) Considering only bending strength

6) Compression members are commonly found in _____.
a) Beams b) Columns
c) Trusses d) Slabs

7) Gravity loads on a roof truss primarily consist of _____.

a) Dead load and live load
b) Wind load and snow load
c) Temperature effects
d) Earthquake load

Q.2 Solve Any Three of the following. **15**

a) Differentiate between limit state method and working stress method.
b) Write a note on design steps of steel beam.
c) What are the different modes of Analysis of truss?
d) Explain in detail all Rolled steel Section.

Q.3 Solve Any Four of the following. **48**

a) i) Define effective length and slenderness ratio of steel column.
ii) Differentiate between welded and bolted connection.

b) Determine the design tensile strength of the plate 130mm × 12mm with the holes for 16mm diameter bolts as shown in fig.-l (all dimensions are in mm). Steel used is of 410 grade quality.

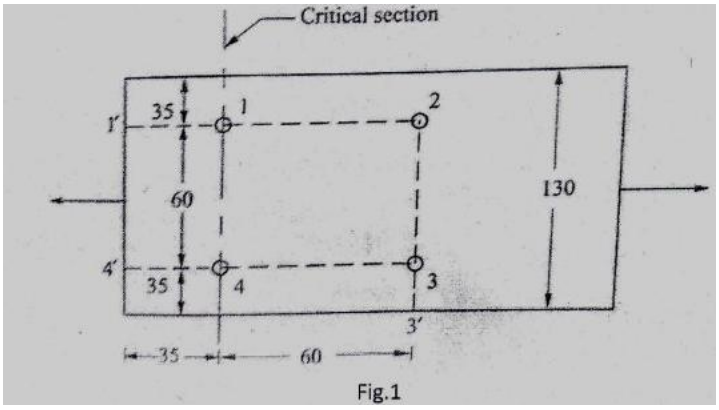
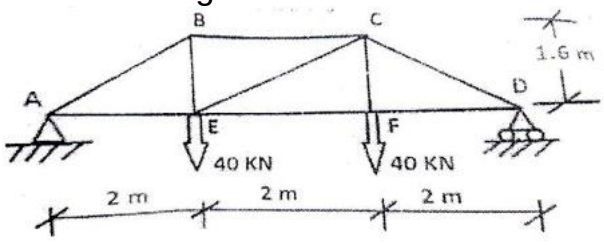


Fig.1

c) Design a simply supported beam of effective length 3 m carrying a factored load of 400 KN at mid span.

d) Design a rolled I section column to carry axial load of 800kN. The column is 4 m long and adequately restrained in position but not in direction at both the ends.

e) Find the forces of the following truss



Seat No.	

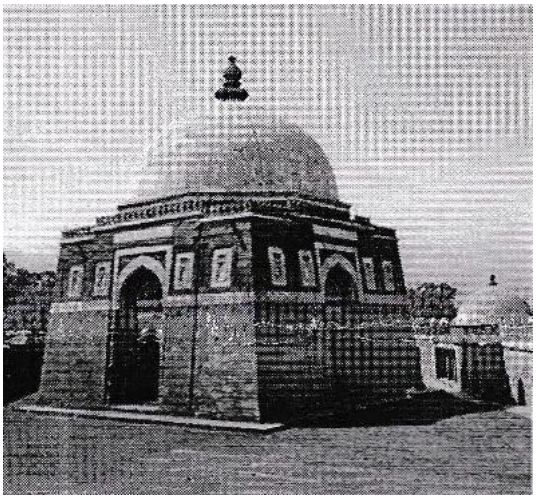
Set **P**

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
History of Architecture - III (21AR4-04)

Day & Date: Thursday, 21-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

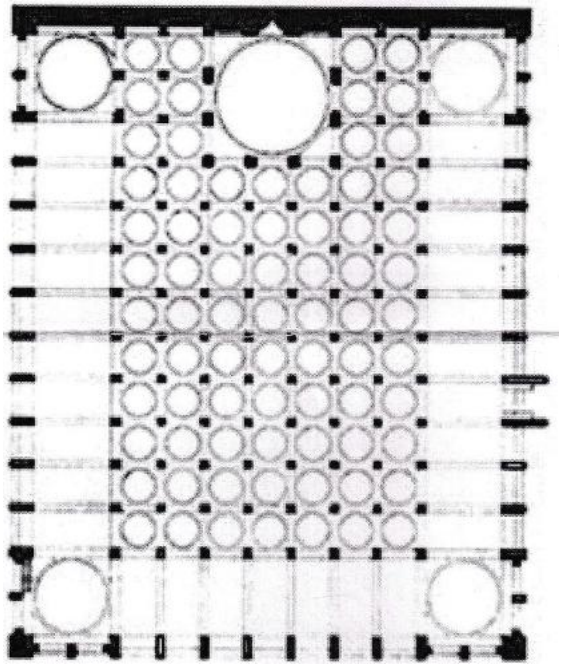
Q.1 Choose the correct alternative. **07**

1) Identify the following monument.



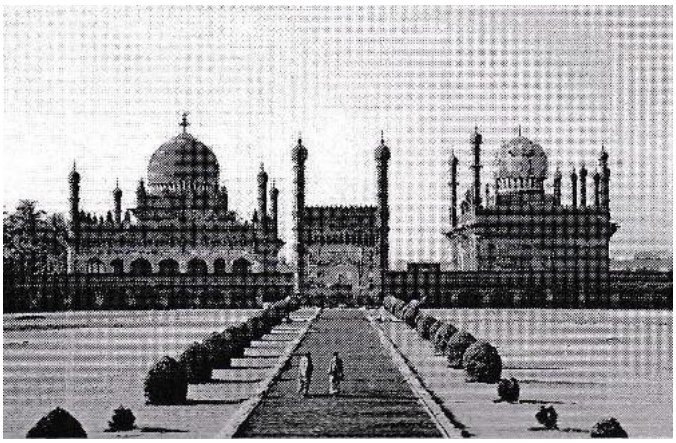
a) Tomb of Iltutmish
b) Tomb of Ghiasuddin Tughlaq
c) Tomb of Humayun
d) Tomb of sayyid Lodhi

2) Identify the following plan.



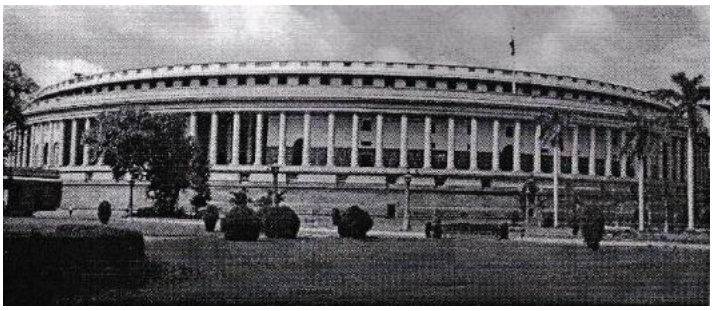
a) Mosque in Fatehpur Sikri
b) Khirki masjid Delhi
c) Mosque at Gulbarga
d) Mosque at Bijapur

3) Identify the following monument.



a) Madrassa of Gawan at Bidar
b) Quwat ul Islam Mosque complex, Delhi
c) Ibrahim Rauza at Bijapur
d) Tomb of Shaikh Salim Chisti, Sikri

4) Identify the following monument?

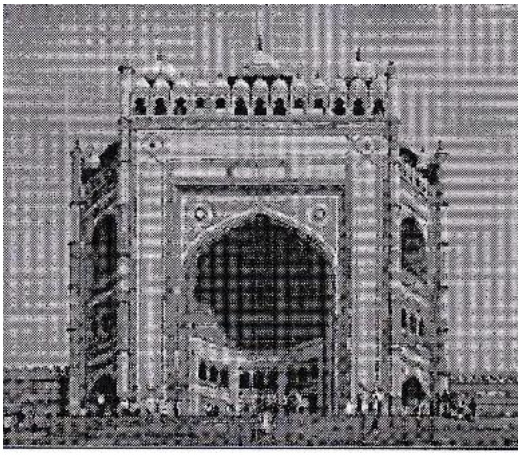


a) Rashtrapati Bhawan
b) India Gate
c) Parliament House
d) Bombay Town Hall

5) Architect of CST (Chhatrapati Shiwaji Maharaj terminus) is _____.

a) Michelangelo
b) Herbert Baker
c) Fredric William Stevens
d) Edwyn Lutyns

6) Identify the following.



a) Pachisi court
b) Diwane am
c) Diwne Khass
d) Buland Darwazah

7) What is one major urban effect of the Industrial Revolution?

a) De-urbanization
b) Expansion of rural farmlands
c) Rapid urbanization
d) Decentralization of cities

Q.2 Write Short Notes. (Any Three) **15**

a) Industrial revolution and new building material
b) Whispering gallery of Gol Gumbaz
c) Madrasa of Gawan at Bidar
d) Shish Gumbad

Q.3 Answer the following question in detail. (Any Four) **48**

a) i) Sketch and explain architectural significance of Khirki masjid at Delhi.
ii) Sketch and explain Alai Darwaza.
b) What is Charbagh? Sketch and planning of Shalimar bagh at Srinagar.
c) What is Modern Architecture? Sketch and explain the architectural significance of the Chicago school of arts and architecture.
d) i) What British Colonial Architecture in India? Explain its characteristic features.
ii) Sketch and explain layout of New Delhi.
e) What is Gothic Architecture? Explain its significance with reference to Notre dame Paris.

Seat No.	

Set P

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
Building Services – II (21AR4-07)

Day & Date: Saturday, 23-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data if necessary.

Q.1 Coose the correct alternatives. **07**

1) The unit of luminance (brightness) is _____.
a) Candela/m^2 b) Lumen/m^2
c) Lux d) Watt/m^2

2) Which lamp has the highest luminous efficacy?
a) Incandescent lamp b) Halogen lamp
c) LED lamp d) fluorescent lamp

3) Which wiring is most commonly used in modern buildings?
a) Conduit wiring b) Batten wiring
c) Cleat wiring d) Casing-capping wiring

4) Earthing is done to _____.
a) Increase voltage b) Protect from electric shock
c) Decrease current d) Improve power factor

5) Which system is suitable for hot or mixed climates?
a) Exhaust ventilation b) Supply ventilation
c) Balanced ventilation d) None

6) In a split AC, the compressor is located _____.
a) Inside the room b) Outside unit
c) Ceiling d) None

7) A lift that moves people vertically is called _____.
a) Conveyor b) Elevator
c) Escalator d) Ramp

Q.2 Solve the following. (Any Three) **15**

a) Write short notes on air filters and dehumidifiers.
b) Sketch all types of Escalators.
c) Differentiate between supply, exhaust, and balanced ventilation systems.
d) 5 Advantages and 5 disadvantages of conduit wiring system.

Q.3 Solve the following questions. (Any Four) **48**

a) Explain the generation, transmission, and distribution of AC power supply with a neat schematic diagram.

b) Give any 8 points of comparison between cleat wiring, Casing Capping wiring, Batten Wiring and Conduit Wiring.

c) Explain any 4 components of mechanical ventilation.

d) Write short notes on any three lamps from the following: Incandescent, Halogen, CFL, LED.

e) Describe the main components of an air conditioning system. Explain indoor and outdoor components with neat labeled sketches.

Seat No.	

Set **P**

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
Theory of Architecture (21AR4-05)

Day & Date: Monday, 25-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Assume suitable data if necessary.

Q.1 Choose the correct alternative from the options. **07**

1) Firmita's, Utilita's and _____ represents Vitruvian triad.
a) Venustas b) Proportion
c) Rhythm d) Ratio

2) _____ is famous for its stately symmetry, classical elements and grand appearance.
a) Antiquity Theory b) De-constructivism Style
c) Renaissance style d) Palladian style

3) _____ (1849) is a treatise on architecture by John Ruskin.
a) Four Elements of Architecture
b) Seven Lamps of Architecture
c) De Architectura
d) Essay on architecture

4) Viollet Le Duc was the architect behind the restoration of _____ in the nineteenth century.
a) Notre dame b) Primary Hut
c) Hat Factory d) Villa Rotunda

5) Japanese Ar. _____ won the Pritzker Architecture Prize in 1987.
a) Erich Mendelson b) Kenzo Tange
c) Robert Venturi d) Claude Perrault

6) Robert Venturi published his treatise _____ in Architecture in 1966.
a) Four Elements of Architecture
b) Seven Lamps of Architecture
c) Complexity and Contradiction
d) Essay on Architecture

7) Christopher Alexander is best for his _____ book.
a) Complexity and Contradiction
b) Seven Lamps of Architecture
c) De Architectura
d) Pattern Language

Q.2 Write Short Notes. (Any Three) **15**

a) 3 Rules of Vitruvius
b) Ideas of Laugier
c) Deconstructivism
d) Metabolist movement

Q.3 Answer in Brief. (Any Four) **48**

a) Explain the fundamental principles of Vaastu shastra.
b) Laurie Baker is known as Gandhi of Indian architecture -justify with his works and principles.
c) Explain critical regionalism and six points on architectural resistance by Kenneth Frampton.
d) What are the four elements of architecture according to Gottfried Semper?
e) Explain the characteristics of expressionist architecture with an example of works done by Erich Mendelson.

Seat No.	

Set P

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
Climatology and Environment – II (21AR4-08)

Day & Date: Wednesday, 27-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Q. No. 1 is compulsory.
2) Attempt any four questions from Q.3 to Q.7.
3) Figures to right indicate full marks.
4) Make suitable assumptions wherever necessary and mention in your answer book

Q.1 Choose the correct answer. **07**

1) An object is, technically, said to be "_____" when it does not exhibit selective absorption.
a) Black b) Brown
c) Colourless d) None of above

2) _____ value tells us how well a surface withstand heat transfer.
a) R b) K
c) U d) None of above

3) An inevitable by-product of electric lighting is _____.
a) vapour b) air
c) heat d) None of above

4) North pole experiences 6 months of continuous light and 6 months of continuous darkness _____.
a) True b) False

5) A white light passing through a blue glass, emerges as a _____ light.
a) white b) red
c) blue d) None of above

6) In valleys wind blows _____ during the day.
a) uphills b) latral
c) downhills d) None of above

7) If a red object is illuminated with blue-green light the object colour appears _____ as red pigment absorbs the blue-green and reflects nothing.
a) green b) blue
c) gray d) None of above

Q.2 Write Short Notes. (Any Three) **15**

a) Colour temperature
b) East- West ORIENTED SETTLEMENT FORM in city planning
c) Climatic considerations in lotus temple
d) Roof Pond System for cooling

Q.3 **a)** Explain "Munsell" colour system with sketch **04**

b) With the help of sun path diagram 18 N find azimuth and altitude angles for given chart and all four given conditions **08**
condition 1: May month 12 NOON and 4 PM
condition 2: December Month 5PM and 10 AM

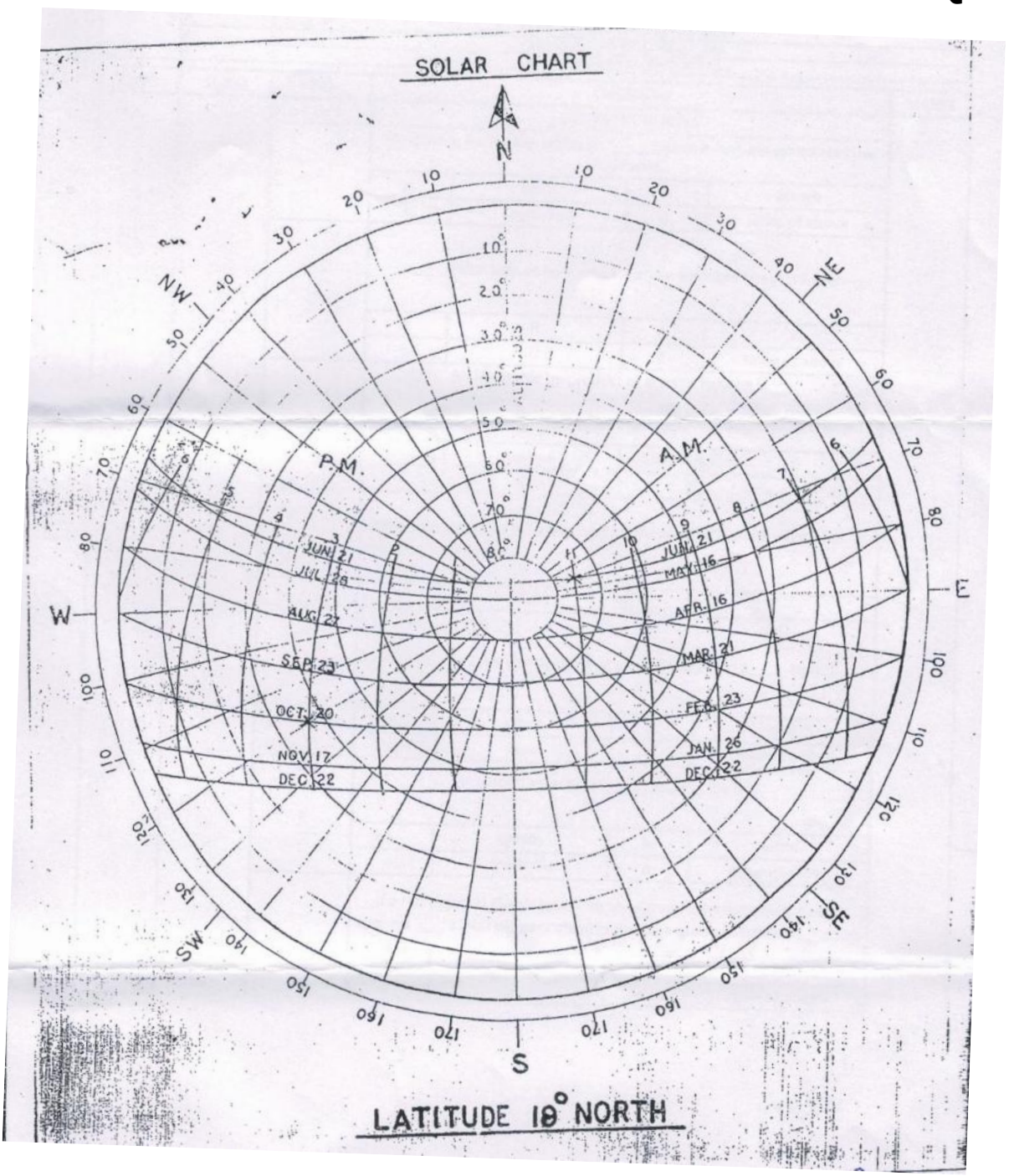
Q.4 Explain with sketched Day Lighting Design in Hot and Dry Climate. **12**

Q.5 **a)** Explain how outdoor rooms are located; with two combinations of sun and wind direction **05**

b) Explain form characteristics and how solar envelope can be used to ensure access to sun for buildings, streets & open spaces? **07**

Q.6 Explain Composite Climate along with Two Stratagies which can be used for heat gain. **12**

Q.7 Explain in detail microclimate analysis with hypothetical example. **12**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Seat No.	

Set P

B. Architecture (Semester - IV) (New) (CBCS) Examination: March/April – 2026
Building Construction and Material – IV (21AR4-02)

Day & Date: Friday, 29-05-2026 Max. Marks: 100
Time: 10:00 AM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct options. **05**

1) An isolated footing is provided to support _____.
a) one column b) two columns
c) a wall d) an entire building

2) Formwork used for RCC construction should be _____ to prevent leakage of cement slurry.
a) porous b) watertight
c) rough d) uneven

3) A cantilever beam is supported at _____ end(s) only.
a) one b) two
c) three d) four

4) A rolling shutter operates by moving the shutter curtain _____.
a) sideways on tracks b) vertically up and down
c) rotating on hinges d) sliding in grooves

5) A raft foundation is also known as a _____ footing.
a) pile b) mat
c) strip d) spread

Q.2 Draw and Label. (Any Two) **30**

a) Draw plan and section of a two-way slab for room of 3.00 m × 3.00 m. (scale 1:20)

b) Draw plan and section of a single or box footing 0.90 m × 0.90 m. (scale 1:20)

c) Draw plan and section of an RCC circular column with spiral reinforcement and square column with lateral ties. (Scale 1:20)

Q.3 Write short notes with sketches wherever necessary. **25**

a) Describe sloped footing with neat sketches.
b) Describe Trapezoidal Combined Footing with neat sketches.
c) Describe waffle slab with neat sketches.
d) Describe scaffolding with material used, purpose and advantages.
e) Describe Assembly process of scaffolding.

Q.4 Choose the correct options. **05**

1) Terracotta is a type of ceramic material made from _____.
a) Cement b) Burnt clay
c) Lime mortar d) Stone dust

2) The main binding material in concrete is _____.
a) Clay b) Lime
c) Cement d) Gypsum

3) Vibrators are used in concrete work to ensure proper _____.
a) Coloring b) Compaction
c) Curing d) Proportioning

4) Earthenware is a ceramic product that remains _____ after firing.
a) Vitrified and non-porous b) Porous and opaque
c) Transparent and glassy d) Metallic and shiny

5) The main ingredients of concrete are cement, sand, coarse aggregate, and _____.
a) Lime b) Water
c) Gypsum d) Clay

Q.5 Answer in detail. (Any Two) **20**

a) Explain in detail the properties and uses of ceramic materials in building construction.

b) Explain in detail the placing, compaction and curing of concrete.

c) Describe construction joints and expansion joints in RCC structures with their importance.

Q.6 Write Short Notes. **15**

a) Write a short note on Terracotta and its uses in architecture.
b) Write a short note on Admixtures used in concrete.
c) Write a short note on Gypsum Plaster.

Seat No.	

Set P

B. Architecture (Semester - V) (New) (CBCS) Examination: March/April – 2026
Theory of Structure - V (21AR5-03)

Day & Date: Tuesday, 12-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.
5) IS456:2000 is allowed.

Q.1 Choose the correct answers. **07**

1) Which of the following is NOT a type of beam defined in IS 456:2000?
a) Simply supported beam b) Cantilever beam
c) Continuous beam d) Trussed beam

2) According to IS 456:2000, the minimum percentage of tensile reinforcement for beams should not be less than _____.
a) 0.12% b) 0.15%
c) 0.20% d) 0.25%

3) What is the minimum thickness of a slab according to IS 456:2000?
a) 75 mm b) 100 mm
c) 125 mm d) 150 mm

4) Which of the following statements is true regarding two-way slabs?
a) They span in one direction only.
b) They are usually thicker than one-way slabs.
c) They require reinforcement in both directions.
d) They are not used for residential buildings.

5) What is the load factor for live loads according to IS 456:2000?
a) 1.2 b) 1.5
c) 1.0 d) 0.9

6) In the design of a column, the minimum diameter of a circular column should not be less than _____.
a) 150 mm b) 200 mm
c) 300 mm d) 450 mm

7) The base area of an isolated footing is determined by _____.
a) Soil bearing capacity b) Load on the footing
c) Both a) and b) d) None of the above

Q.2 Write short notes on. (Any Three) **15**

a) Write a note on limit state of collapse and limit state of serviceability.
b) Write a note on partial safety factors for limit state design.
c) Write a note on assumptions made in analysis and design of flexural member.
d) Write a note on continuous beam.

Q.3 Solve the following. (Any Four) **48**

a) Design simply supported two - way slab for a room 5.5m × 4m clear in size if superimposed load is 5kN/m^2. Use M25S grade of concrete and Fe415 steel.
b) Design simply supported slab for a hall of 3.4m × 7.0m with 230mm thick wall. Assume live load of 3.3KN/m^2 and floor finish of 1.1 KN/m^2. Use M20 grade of concrete and Fe415 steel.
c) A simply supported beam of length 6 m is carrying UDL of 25 KN/m inclusive of self-weight. Analyze and design the beam. Use M20 grade of concrete and Fe415 steel.
d) Design a circular short column to carry an axial load of 1500 kN. Assume e_{min}< 0.05 D. Use M25 grade of concrete and Fe415 steel.
e) Design footing to carry 600KN load. Take safe bearing capacity of soil as 200KN/m^2. Use M20 grade of concrete and Fe415 steel.

Seat No.	

Set | P

B. Architecture (Semester - V) (New) (CBCS) Examination: March/April – 2026
History of Architecture – IV (21AR5-04)

Day & Date: Thursday, 14-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat sketches wherever necessary
3) Figures to the right indicate full marks.

Q.1 Choose the correct option. **07**

1) What are the building materials used to build the Barcelona Pavilion?
a) Concrete b) Granite
c) Glass d) All of the Above

2) Which architect designed Casa Milà, a famous building located in Barcelona, Spain?
a) Frank Gehry b) Antoni Gaudi
c) Le Corbusier d) Zaha Hadid

3) Which architect designed the IBA Housing project in Germany, known for its innovative and futuristic design?
a) Norman Foster b) Renzo Piano
c) Frank Gehry d) Zaha Hadid

4) key Design features of Falling water _____.
a) Horizontal Emphasis
b) Open Floor plan, Integration with nature
c) Use of Concrete and stone, Cantilever design
d) All of the above

5) Which of the following projects is associated with Laurie Baker, an example of sustainable and cost-effective architecture in India?
a) Center for Development Studies, Thiruvananthapuram
b) IIT Madras
c) Aranya Community Housing, Indore
d) CIDCO Housing, Mumbai

6) Which architect designed the HSBC Building in Hong Kong, known for its innovative design and structural features?
a) Renzo Piano b) Zaha Hadid
c) Norman Foster d) Frank Gehry

7) Which city is home to the iconic Guggenheim Museum designed by architect Frank Gehry?
a) Paris b) New York City
c) Bilbao d) London

Q.2 Write Short Notes. (Any Three) **15**

a) Villa Savoy, France
b) Vanna venture house, Philadelphia, USA.
c) Indian Coffee house, Trivandrum
d) Nehru Science Centre, Mumbai

Q.3 Answer the following in detail. (Any Four) **48**

a) "Explain how Le Corbusier's buildings in Chandigarh, like the Secretariat, changed the city. Focus on what special design ideas you can see in the Secretariat."

b) Discuss the contribution of Charles Correa to modern Indian architecture, with specific reference to Jaipur Kala Kendra.

c) Discuss the architectural significance of the Hall of Nations in the context of post-independence Indian architecture?

d) Explore the role of international architect - Oscar Niemeyer in shaping modern architecture, with a focus on their notable work- National congress complex, Brazil.

e) Define High-tech Architecture? Examine the characteristics of high-tech architecture through the lens of Sir Norman Foster's HSBC Building in Hong Kong and Renzo Piano's Pompidou Centre in Paris.

SLR-QF-22

Seat No.	

Set P

B. Architecture (Semester - V) (New) (CBCS) Examination: March/April - 2026
Building services – III (21AR5-07)

Day & Date Saturday, 16-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Make suitable assumptions where ever necessary.

Q.1 Fill in the blanks. **07**

1) Structure borne sound travels much _____ than air borne sound.
a) Similar b) Slower
c) Faster d) none of the above

2) Type of elevator that is used in hospital and treatment center is ____.
a) Trade Lift b) Hospital Lift
c) Car Lift d) none of the above

3) _____ sound originates by vibrating structure or impact.
a) Music b) Air born
c) structure borne d) none of the above

4) _____ shaped auditorium have canted walls which do not provide lateral reflection which are most beneficial for musical envelopment.
a) Oval b) Fan
c) Rectangle d) None of the above

5) Manual and automatic detection and suppression of fires, such as fire sprinkler systems is part of _____.
a) Passive fire protection b) Active fire protection
c) Sound Absorption d) None of the above

6) Absorption is required listeners are in _____ field.
a) Free b) reverberant
c) Dead d) None of the above

7) Barriers designated which are intended to segregate parts of buildings, where different uses are on each side are called as _____.
a) Disconnector b) occupancy separator
c) Cladding d) None of the above

Q.2 Write short notes. (Any Three) **15**

a) Sprinkler Classification and type
b) Arrangements of escalators
c) Quieting of Machines
d) The mechanics of absorption

Q.3 Solve Any Four of the following. **48**

a) Explain with diagram Dry Riser System and Wet Riser System.

OR

a) Explain in detail Open air theatre design along with sketches.

b) Explain Ray Diagram and Explain Ceiling design in Auditorium.

c) Explain with diagram Installation of Absorptive Materials and give considerations of wall treatment in auditorium.

d) Explain Components & Specifications of sound reinforce system along with diagrams.

e) Calculate total absorption required and design a theare for approximate capacity of 600 people consider volume 4.5 m3 /person and Rt=1.0; use following absorption coefficient; give conceptual section and plan

1) pop -0.26
2) plaster-0.004
3) glass wool-0.15
4) occupied seat- 0.42
5) unoccupied seat-0.18
6) curtain-0.12
7) High performance vinyl fiber glass ceiling panel 0.71
8) Mineral fiber tiles 0.51
9) 3/4inch plywood paneling-0.17

SLR-QF-23

Seat No.	

Set | **P**

B. Architecture (Semester - V) (New) (CBCS) Examination: March/April - 2026
Architectural Design - V (21AR5-01)

Day & Date: Saturday, 30-05-2026 Max. Marks: 100
Time: 10:00 AM To 04:00 PM

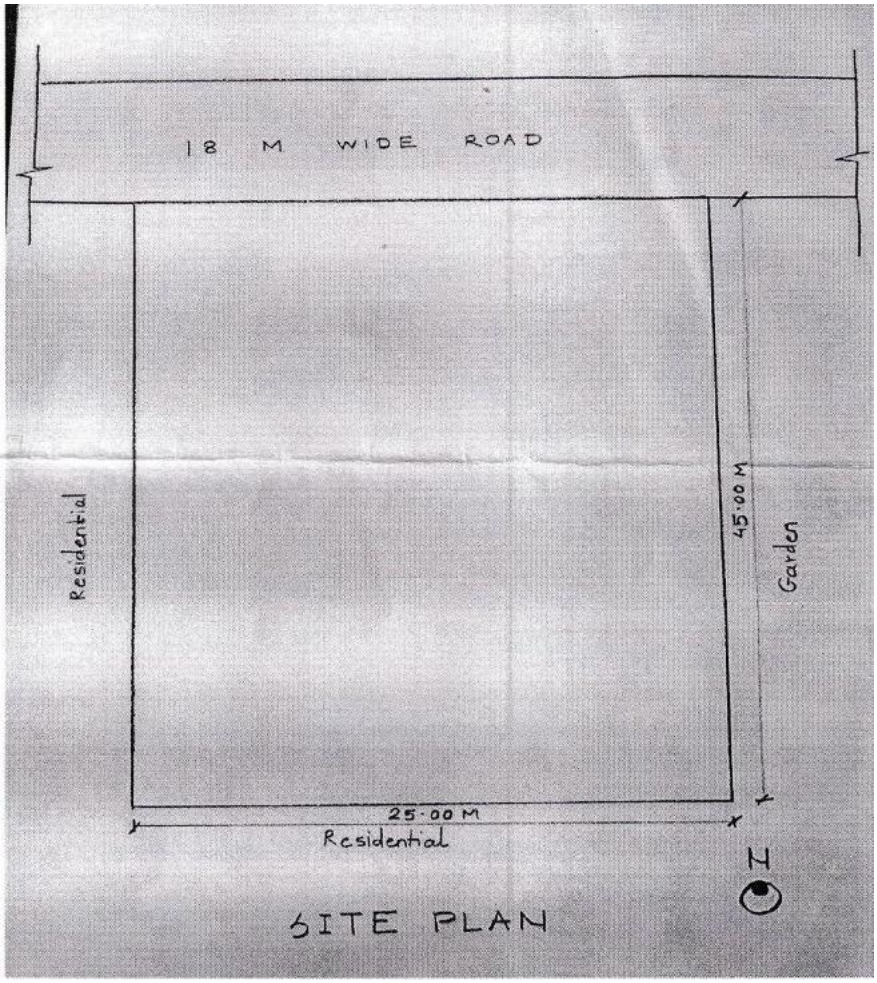
Instructions: 1) The candidates are required to submit the concept and rough scheme for Final presentation at the end of day
2) Assume suitable data wherever necessary.
3) Draft site plan on 1:100 Scale.
4) Draft Floor plans, Sections and Elevations on 1:50 Scale.

Topic Title: Solapur Municipal Corporation is proposing a City Library near Park Chowk area.

	Sr. no.	Requirements	No. of units	Area (in sqm)
	1	Entrance Lobby	1	15
	2	Locker Room	1	15
	3	Librarian's Desk 2 no. of librarian	1	15
	4	Librarian's Cabin	1	15
	5	Computer Room	1	30
	6	Book Stack Area	1	45
	7	Reading Area	1	90
	8	Reference Section	1	30
	9	Record Room	1	15
	10	Toilet Gents Ladies	 2 wc 2 wc, 2 urinals	30
	11	Store Room	1	15
	12	Outdoor Reading Area		
			Total Carpet Area	**315**
	Provide adequate Parking space for 5 four wheelers and 12 two wheelers.			

Drawing Requirements	1	Concept	15 marks
	2	Site Plan	25 marks
	3	All Floor Plans (including terrace / roof plan)	25 marks
	4	One elevation	10 marks
	5	Two Sections	15 marks
	6	Sketches, Details if any to explain scheme	5 marks
	7	Neatness, Drafting etc.	5 marks

Proposed Site



Site is located near Park Chowk Area between Residential colonies.
Set back for site as below -
Front Setback - 6.00 m
Rear Side setback - 3.00 m

Seat No.	

Set **P**

B. Architecture (Semester - VI) (New) (CBCS) Examination: March/April - 2026
Urban planning (21AR6-05)

Day & Date: Tuesday,19-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Make suitable assumption wherever necessary and mention in your Answer book.
2) All questions are compulsory.
3) Figures to the right indicate full marks.

Q.1 Multiple choice question. **07**

1) The capital city of _____ was planned by two Indian planners H.K. Mewada and Prakash M. Apte
a) New Delhi b) Punjab
c) Jaipur d) Gandhi Nagar

2) _____ defines the uses to which various parts of the town will be put.
a) Use zoning b) Height zoning
c) density zoning d) zoning power

3) Letchworth and Walwyn are the examples of _____.
a) Garden City b) industrial town
c) satellite town d) natural growth

4) The _____ controls the development activity on the plot of land and consequently, it can be used as a measure to check density of population.
a) T.D.R b) F.A.I.
c) F.S.I d) F.R.A

5) _____ is defined as the land included in house plots, residence, roads and incidental open space.
a) Net residential area b) Carpet area
c) plot area d) Built up area

6) Broad Acre is a linear city designed by _____.
a) Lewis Mumford b) Frank Loyd Wright
c) C.A Doxiadis d) Soria Y Mata

7) In case of height zoning, the ratio of height to the width of road will be _____ in case of air plane rule 63½”
a) be 2:1 b) be 1:1
c) be 4:1 d) be 3:1

Q.2 Write short notes. (Any Three) **15**

a) Density zoning
b) Grade separators
c) Garden cities
d) Concentric zone model

Q.3 Answer in following. (Any Four) **48**

a) Discuss the evolution of planning through ages on globe scale.
b) Describe in detail the urban planning concepts of the following thinkers:
   i) Ebenezer Howard
   ii) Le Corbusier
c) Explain in brief the urban planning idea of Chandigarh.
d) What is meant by the term zoning and what are the objectives of zoning. And explain concept of density zoning and its advantages.
e) What are the main objectives of traffic management? And write a note on the measures to control traffic at junction.

Seat No.	

Set **P**

B. Architecture (Semester - VI) (New) (CBCS) Examination: March/April – 2026
Building services – IV (21AR6-07)

Day & Date: Thursday, 21-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Make suitable assumptions wherever necessary and mention in your answer book.
2) All questions are compulsory.
3) Figures to right indicate full marks.

Q.1 Choose the correct option. **07**

1) In which method of composting, decomposition of anaerobic waste takes place?
a) Indian method b) Depression method
c) Bangalore method d) Trench method

2) _____ is formed when alum is added to sewage.
a) Acid b) Floc
c) Salt d) Base

3) The type of solids which floats in sewage is _____.
a) Suspended solids b) Settleable solids
c) Dissolved solids d) Total solids

4) The pathogens can be killed by _____.
a) Nitrification b) Chlorination
c) Oxidation d) None of the above

5) _____ is a liquid that passes through solid waste and extracts suspended impurities from it _____ is a liquid that passes through solid waste and extracts suspended impurities from it.
a) Leachate b) Sludge
c) Distilled water d) Municipal waste

6) _____ is a method where water is used as a medium for the flow of sewage from its production of the treatment unit.
a) Conservancy system b) Biological digestion
c) Incernation d) Water carriage system

7) The disposal of sewage from the septic tank is done by which of the following?
a) Clarifier b) Soak pit
c) Aerated lagoon d) lamp hole

Q.2 Write Short Notes. (Any Three) **15**

a) Refuse chute
b) Trickling filters
c) Bio gas plant
d) Swimming pool

Q.3 Answer the following. (Any Four) **48**

a) Write a note on natural methods of sewage disposal and explain land treatment method with the help of neat sketch.
b) What are different types prives where draw a neat sketch of aqua privy and explain its working?
c) Discuss the methods of garbage collection and method of solid waste management for urban areas.
d) Discuss in detail primary treatment in sewage treatment plant and explain sedimentation tank with the help of neat sketch.
e) List all the units for typical waste water treatment plant and explain with help of neat sketch.

Seat No.	

Set P

B. Architecture (Semester - VI) (New) (CBCS) Examination: March/April – 2026
Theory of Structure – VI (21AR6-03)

Day & Date: Saturday, 23-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.
5) IS 456:2000 and IS 3370 allowed.

Q.1 Choose the correct alternatives. **07**

1) A retaining wall is designed to _____.
a) Support vertical loads only b) Resist lateral earth pressure
c) Support axial loads d) Prevent soil erosion

2) A counterfort retaining wall is designed with _____.
a) A cantilever stem and a base slab only
b) A stem and counterforts at regular intervals
c) A heel slab and toe slab
d) Vertical supports for resisting bending moments

3) The design of water tanks is governed primarily by ____.
a) IS 456: 2000 b) IS 3370
c) IS 800: 2007 d) IS 15988

4) Pile foundations are generally used when _____.
a) The soil near the surface is weak
b) The building is of low height
c) The structure has a low load-bearing capacity
d) The structure is made of lightweight materials

5) Pile groups are designed to _____.
a) Distribute the load evenly to the surrounding soil
b) Create a larger load area
c) Improve the aesthetic value of the foundation
d) Reduce the cost of construction

6) Raft foundations in seismic zones are designed to _____.
a) Be flexible enough to absorb seismic loads
b) Be rigid to prevent movement
c) Use shallow excavation
d) Only support gravity loads

7) The primary function of a combined footing is to _____.
   a) Reduce the amount of concrete used
   b) Provide support to columns that are close to each other
   c) Improve the soil conditions beneath the footing
   d) Reduce lateral forces on the structure

Q.2 Answer the following questions. (Any Three) **15**

a) Differentiate between isolated footing and combined footing.

b) Explain the design criteria for water tanks according to IS 3370.

c) What are the key steps in the design of a pile foundation, and how is the load-bearing capacity of piles determined?

d) Describe the stability checks required in the design of cantilever and counterfort retaining walls.

Q.3 Answer the following questions. (Any Three) **48**

a) Design a retaining wall to retain the earth 4m high. The top surface is horizontal behind the wall. The soil behind the wall is well drained medium dense sand with following properties

Unit weight = 17 kN /m^3

Angle of internal friction = 30°

The material under the wall is the same as above with S.B.C. of 150 kN /m^2. The coefficient of friction between base and soil is 0.55. Design the wall using M20 grade concrete and Fe415 grade steel.

b) Determine the plan dimensions of a combined footing for two axially loaded columns with following data if
   i) width is not restricted
   ii) width is restricted to 2.5m

Columns	C1	C2
Type	Interior	Interior
Size	400mm × 400mm	400mm × 400mm
P	1200kN	1500kN
Spacing	3 m c/c from C1 to C2	
SBC	180kN/m^2	

c) Difference between end bearing piles and friction piles with sketch.

d) Write detail note on types of water tank.

Seat No.	

Set P

B. Architecture (Semester - VI) (New) (CBCS) Examination: March/April – 2026
Estimating Specifications & Costing – I (21AR6-06)

Day & Date: Tuesday, 26-05-2026 Max. Marks: 70
Time: 03:00 PM To 06:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.

Q.1 Choose the correct option. **07**

1) The approximate estimate is generally prepared in the initial stage of the project to _____.
a) Determine the exact quantity of materials required
b) Get an approximate idea of the project cost
c) Finalize the project budget
d) Determine detailed cost analysis

2) What does “contingency” refer to in an estimate?
a) Expected total expenditure
b) Extra amount for unforeseen expenses
c) Total labor cost
d) Amount for materials

3) The “plinth area method” of estimation is based on which of the following?
a) The area of floors
b) The volume of the building
c) The cost per unit area
d) The total height of the building

4) The purpose of a “revised estimate” is to _____.
a) Get an approximate cost for a new project
b) Reflect changes due to price escalation or design changes
c) Reduce the overall project cost
d) Increase the project scope

5) The standard measurement unit for brickwork in construction is _____.
a) Square meter (m^2) b) Cubic meter (m^3)
c) Linear meter (m) d) Square foot (ft^2)

6) The percentage for work-charged establishment in a detailed estimate is generally taken as _____.
a) 1 - 2% b) 3 - 5%
c) 6 - 8% d) 10%

7) Which document is used to summarize quantities and costs for all items in a detailed estimate?

a) Abstract of quantities
b) Schedule of rates
c) Rate analysis sheet
d) Bill of quantities

Q.2 Write Short Notes. (Any Three) **15**

a) What do you mean by contingencies and work charged establishment? Explain in brief.
b) Write a note on types of estimates.
c) Define - bill of quantities, day work, prime cost, provisional quantities, capital cost.
d) Write a note on rules of deductions for openings in masonry work and plastering.

Q.3 Calculate quantity of any six from following item of work and enter the same in standard format of measurement sheet with brief description of item. (Refer figure.1) **30**

a) Excavation in soft murum in foundation
b) PCC bed in foundation (1:4:8)
c) UCR masonry in foundation and plinth in CM (1:6)
d) DPC in cement concrete
e) Mosaic tiled flooring in all rooms
f) Internal plaster in CM (1:4)
g) RCC lintel

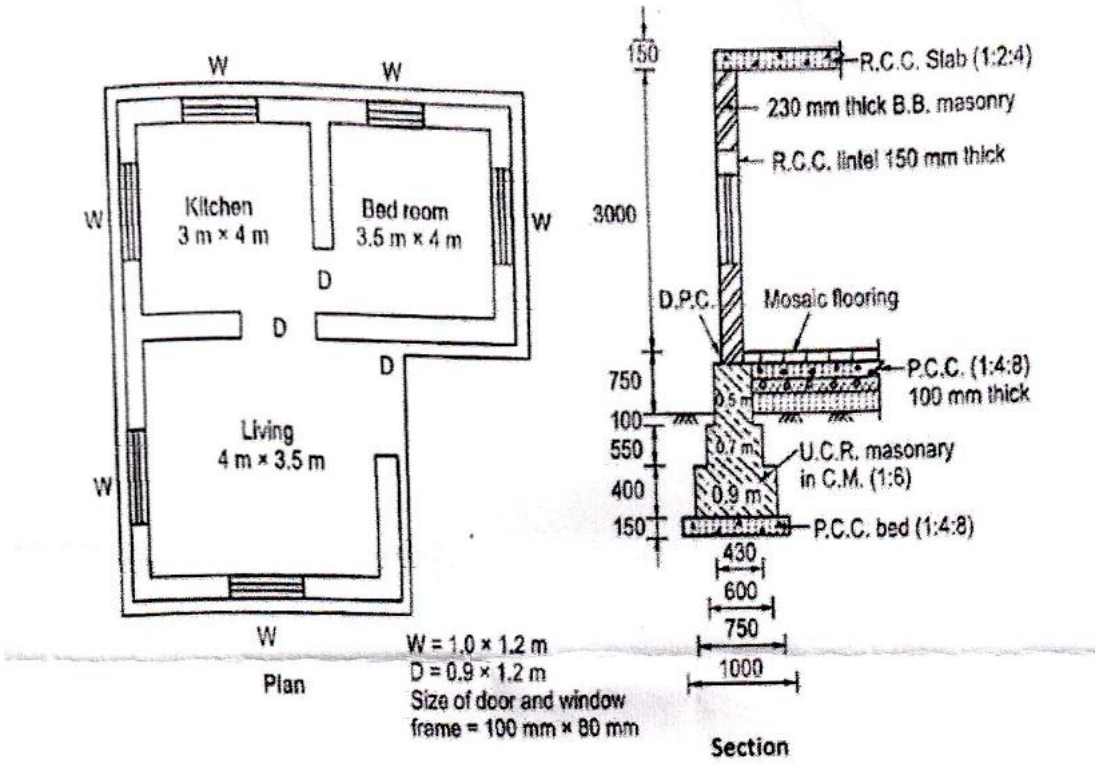


Fig. - 1

Q.4 Prepare abstract sheet for above residential building with following given rate. **18**

a) Excavation in soft murum in foundation, Rs. 500 per Cum
b) PCC bed in foundation (1:4:8), Rs. 5500 per Cum
c) UCR masonry in foundation and plinth in CM (1:6), Rs. 3500 per Cum
d) DPC in cement concrete, Rs. 5800 per Sqm
e) Mosaic tiled flooring in all rooms, Rs. 1350 per Sqm
f) Internal plaster in CM (1:4), Rs. 375 per Sqm
g) RCC lintel, Rs. 7250 per Sqm

Seat No.	

Set | **P**

B. Architecture (Semester - VII) (CBCS) Examination: March/April - 2026
Architectural Design - VII (21AR7-01)

Day & Date: Friday, 08-05-2026 Max. Marks: 150
Time: 10:00 AM To 04:00 PM

Instructions: 1) The candidates are required to submit the concept and rough scheme and final presentation at the end of day.
2) Assume suitable data wherever necessary.
3) You are allowed to exceed/decrease the given areas by 10% as per your design.

Topic Title: Skill Development & Learning Center at Ratnagiri

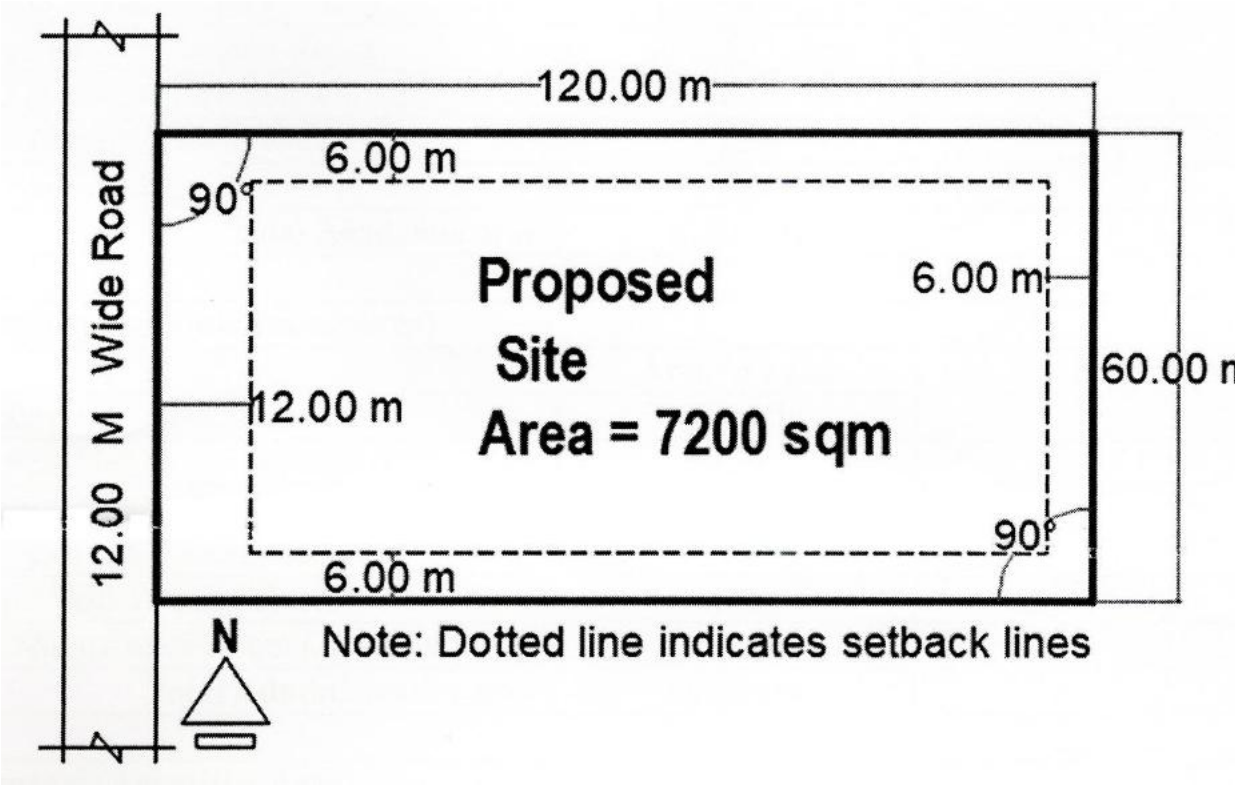
Climatic region: Tropical monsoon climate with hot and humid conditions.
Total Built up area = 1175 sq.m

Requirements (Academic Area)		
Units	**Area in sq.m**	**Nos. of Units**
Entrance Lobby + Reception	30	1
Administrative Office + Record Room	40	1
Principal's Cabin + Private Toilet	30	1
Director's Cabin + Toilet	25	1
Faculty Room (4-6 people)	40	1
Meeting Room / Discussion Room	30	1
Counselling Room or Interview Room	20	1
Server Room / Equipment Room	15	1
Pantry + Staff Dining	30	1
Total Academic area	**275 sq.m**	
Requirements (Administrative Area)		
Units	**Area in sq.m**	**Nos. of Units**
3 Classrooms (30-40 students each)	60 each	3
Multipurpose Hall (lectures, events)	150	1
Library + Reading Room	80	1
Computer Lab (20-30 terminals)	90	1
Workshop / Skill Training Room	120	1
Storage / Maintenance Room (Academic side)	40	1
Total Administrative area	**660 sq.m**	

Requirements (Amenities Area)		
Units	**Carpet area in sq.m**	**Nos. of Units**
Ladies toilets	30	Adequate
Gents toilets	30	Adequate
Boys Common room	30	1
Girls Common room	30	1
Cafeteria	100	1
Stationery store/Reprography	10	1
First aid/sick room	10	1
Total Amenities area	**240 sq.m**	
40% area of plot area in one piece will be left and developed as Playground.		
Parking (open, external—not in built-up) 10-15 cars + 50 two-wheelers		
Barrier free Built environment for disabled and elderly persons.		
Lifts (as per requirement and height of the building), Fire escape staircases as per norms.		

Drawing Requirement	Marks
Concept	30
Site Plan	30
All Floor Plans (Including Terrace if Applicable) Technically Complete	30
One Elevation	20
One Section	20
Sketches, Details if any to explain scheme	10
Neatness, Drafting etc.	10

Scale of Drawings	
Drawing	**Scale**
Site Plan	1:300
Floor Plans, Elevation and Section	1:100


120.00 m
6.00 m
90°
Proposed
Site
Area = 7200 sqm
6.00 m
60.00 m
12.00 m
90°
6.00 m
12.00 M Wide Road
N
Note: Dotted line indicates setback lines

Seat No.	

Set P

B. Architecture (Semester - VII) (CBCS) Examination: March/April – 2026
Theory of Structures – VII (21AR7-03)

Day & Date: Monday, 11-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.
5) IS 456:2000 is allowed.
6) IS 10262:2019 is allowed.

Q.1 Choose the correct alternatives. **07**

1) IS 10262:2019 provides guidelines for_____.
a) Concrete mix design based on empirical method
b) Concrete mix design based on performance
c) Concrete mix design based on material properties
d) Concrete mix design based on environmental conditions

2) Plasticizers are used to _____.
a) Increase workability without increasing the water content
b) Increase the setting time
c) Reduce the strength of the concrete
d) Change the color of concrete

3) What is the primary purpose of prestressing concrete?
a) To increase the concrete density
b) To improve the strength and reduce cracking
c) To reduce workability
d) To enhance the color

4) What is the primary purpose of using a flat slab system in building design?
a) To reduce the overall cost of construction
b) To eliminate the need for beams
c) To increase the load-carrying capacity
d) To enhance the aesthetic appearance

5) The spacing of reinforcement bars in a flat slab is determined by _____.
a) The bending moment b) The shear force
c) The deflection criteria d) All of the above

6) Lateral loads primarily affect the stability of structures in _____.
a) Vertical direction b) Horizontal direction
c) Axial direction d) Torsional direction

7) The type of cement affects _____.
- a) Workability and durability of concrete
- b) The color of the concrete
- c) The size of aggregates used
- d) The cost of the concrete mix

Q.2 Solve any three of the following. **15**

a) Write a note on types of admixtures.

b) According to the height of building, what structural systems are recommended for tall buildings in IS 16700?

c) Write a note on special loads as per IS875.

d) Difference between pretension and post tensioning system of prestressing.

Q.3 Solve any three of the following **48**

a) Perform the concrete mix design

STIPULATIONS FOR PROPORTIONING

a)	Grade designation	: M55
b)	Type of cement	: OPC 43 grade conforming to IS269
c)	Type of mineral admixture	: Fly ash conforming to IS3812 (Part1)
d)	Maximum nominal size of aggregate	: 20mm
e)	Exposure conditions as per Table 3 and Table 5 of IS456	: Severe (For reinforced concrete)
f)	Workability	:120mm (slump)
g)	Method of concrete placing	: Pumping
h)	Degree of supervision	: Good
i)	Type of aggregate	: Crushed angular aggregate
j)	Maximum cement content (OPC content)	: As per IS 456
k)	Chemical admixture type	: Superplasticizer normal

TEST DATA FOR MATERIALS

l)	Cement used	: OPC 43 grade conforming to IS269
m)	Specific gravity of cement	: 3.15
n)	Fly ash	: Conforming to IS 3812 (Part1)
o)	Specific gravity of fly ash	: 2.2
p)	Chemical admixture	: Super plasticizer conforming to IS 9103
q)	Specific gravity of	
	i) Coarse aggregate (at SSD condition)	: 2.74

ii) Fine aggregate (at SSD condition) : 2.65
iii) Chemical admixture : 1.145

r) Water absorption
i) Coarse aggregate : 0.5 percent
ii) Fine aggregate : 1.0 percent

s) The coarse and fine aggregates are wet and their total moisture content is 2 percent and 5 percent respectively.

t) Sieve analysis:
i) Coarse aggregate : Zone I
ii) Fine aggregate : Zone I

b) Explain the structural behavior and applications of long-span trusses in construction.

c) Design the interior panel of a flat slab of size 5×5m supported by columns of a circular column of diameter 500mm. Provide suitable drop. Take live load as 6kN/m^2. Use M25 and Fe415 steel.

c) Abeam of cross- section 400mm×800mm is simply supported over a span of 20 m. It is suitable to transfer prestress force of 2000kN at 28 days. The profile of the cable is parabolic with maximum eccentricity if 200mm at mid-span. The beam is prestressed with 8 cables. Each cable consists of 10 wires of 5mm diameter. Determine the loss of prestress in pretension and post tension. Take Es = 210kN/mm^2, Ec = 35kN/mm^2. Relaxation of steel is 5%, Creep coefficient = 1.6, shrinkage strain in concrete = 2×10^{-4}, slip in anchorage = 3 mm, frictional coefficient 15×10^{-4}.

Seat No.	

Set **P**

B. Architecture (Semester - VII) (CBCS) Examination: March/April - 2026
Professional Practice – I (21AR7-07)

Day & Date: Wednesday, 13-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks. **07**

1) Architects act was enacted in year _____.
a) 1972 b) 1980
c) 1985 d) 1975

2) The _____ documents occupy important position not only from the view point of contractors and employers, but also to the architects.
a) tender b) contracts
c) valuation d) building by laws

3) The amount or earnest money varies from _____ of the estimate cost of the project.
a) 3% to 4% b) 1% to 2%
c) 4% to 5% d) 0% to 3%

4) The _____ is the National body of Architects in the country.
a) COA b) IIA
c) Both a & b d) Neither a nor b

5) Application of registration of architects is done by _____.
a) vice president b) registrar
c) president d) chairman

6) Security deposit usually varies _____ percent of the estimated cost of the project.
a) 2% - 5% b) 4% - 6%
c) 1% - 3% d) 3% - 5%

7) The contractor agrees to carry out the complete _____ work of all the items of the work at the rates quoted by the contractor.
a) labour b) material
c) construction d) All of the above

Q.2 Write Short Notes. (Any Three) **15**

a) Structure of an Architect's office
b) Retention amount
c) Earnest money deposit (EMD)
d) Mobilization fund

Q.3 Answer the following. (Any Four) **48**

a) What are the owner's expectation from architect?
b) Define contract, explain cost-plus fixed fee contract & cost-plus percentage contract.
c) Mention different types of tender and explain any two in detail.
d) Which are the various stages & percentage of payment of architect's fees as per C.O.A?
e) Explain the duties & liabilities of architect.

Seat No.	

Set P

B. Architecture (Semester - VII) (CBCS) Examination: March/April - 2026
Estimating Specification & Costing - II (21AR7-06)

Day & Date: Friday, 15-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Use of scientific calculator is allowed.
2) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Assume suitable data if necessary.

Q.1 Choose the correct alternative. **08**

1) While writing the specification the following principles shall be adapted.
a) Description of materials b) Workmanship
c) Clauses of specification d) All the above

2) Which of the following is NOT a type of contract mentioned in the Indian standards?
a) Fixed Price Contract b) Cost-Plus Contract
c) Time and Materials Contract d) Profit Sharing Contract

3) Weight of the 10 mm diameter bar is _____.
a) 1.58 b) 3.85
c) 2.46 d) 0.61

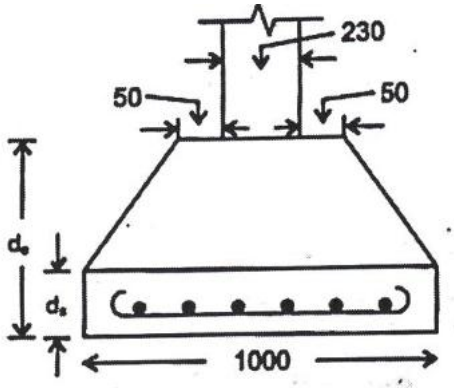
4) The formula for calculating the volume of a beam is _____.
a) Length × Width × Depth b) Length × Depth
c) Width × Height d) All the above

Q.2 Solve the following. (Any One) **12**

a) Workout the quantity of RCC slab size 6500mm × 3500 mm and thickness of 200mm is provided with 12 mm main bars bent-up alternately and placed at 150 mm c/c. The distribution steel of 8 mm diameter is provided at 200mm c/c. Find out the quantity of steel and prepare bar bending schedule. Take cover as 20 mm.

b) Work out the quantity of cement and steel in RCC footing for the following data:

Column size	Footing Size	De/ds	Footing reinforcement details
230×400	1000×1200	450/200	12 mm 120 c/c both way



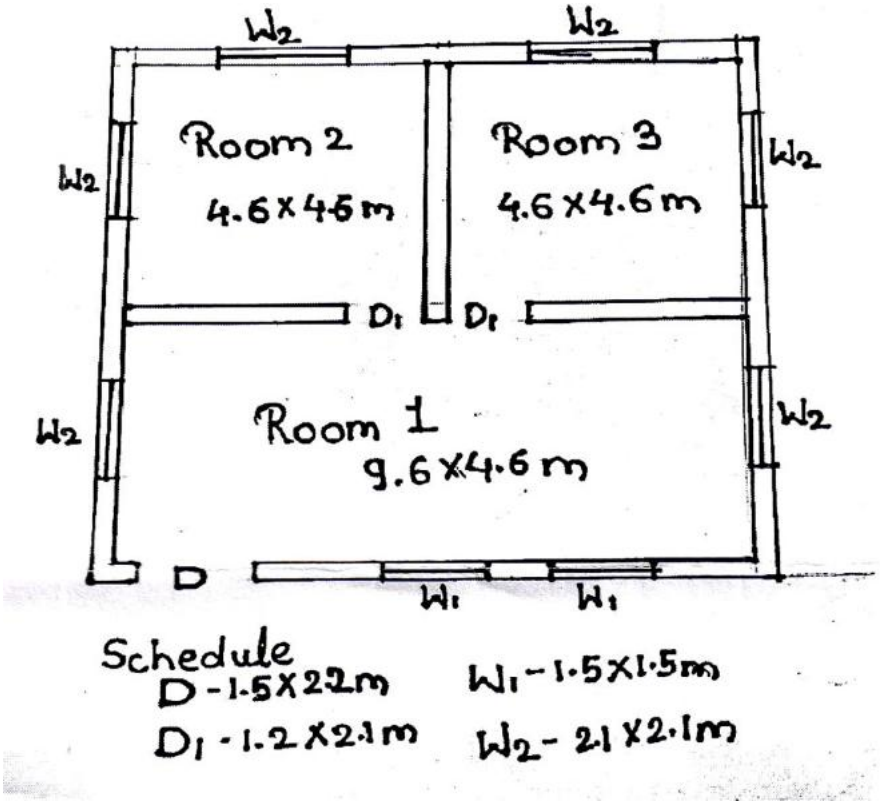
All dimensions are in mm

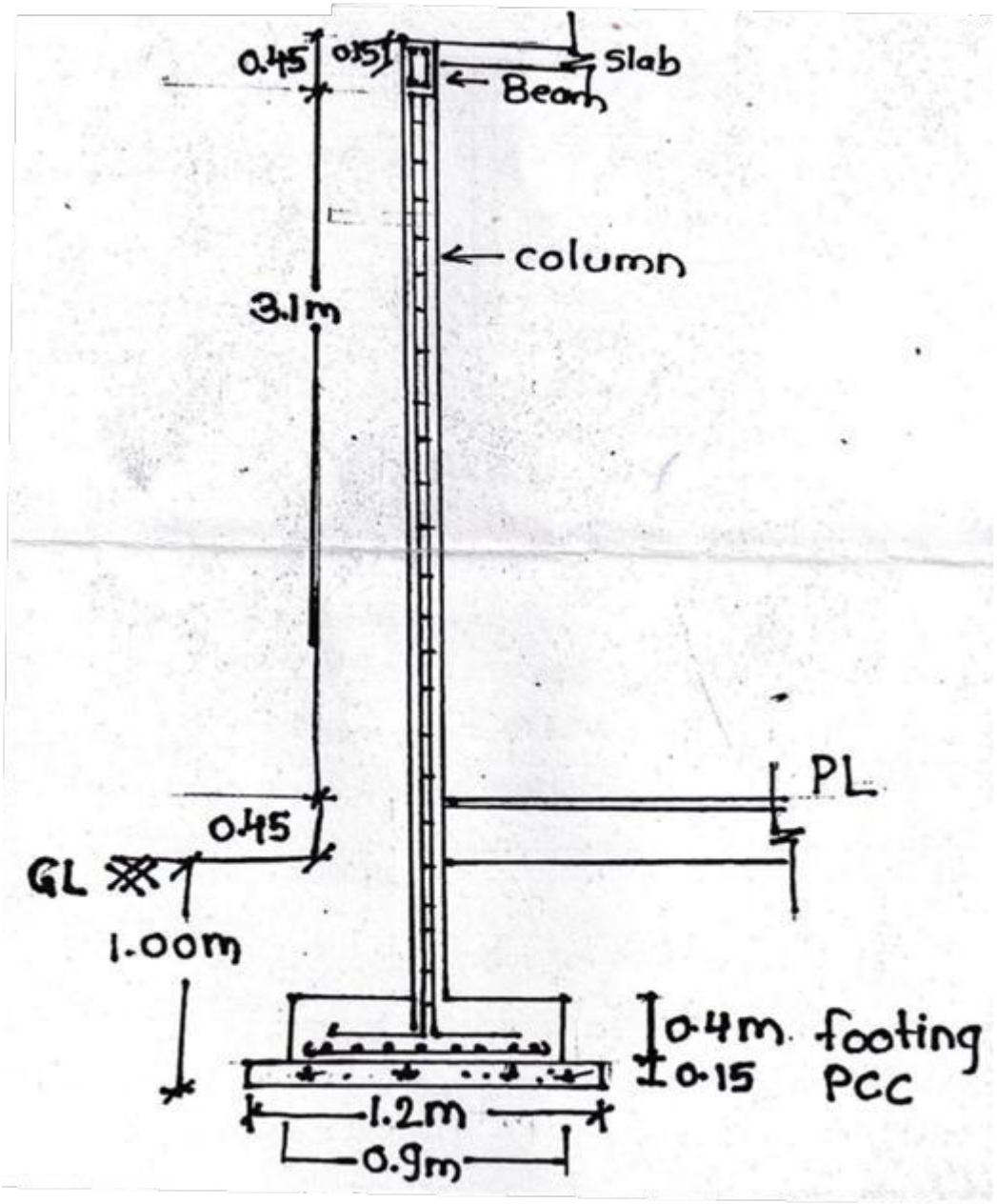
Q.3 Solve the following. (Any Three) **15**

a) Write a note on Cost-plus contract.
b) Write a note on mode of submission of tender.
c) Write specification of plaster.
d) What are the factors affecting the changes in market value?

Q.4 Calculate the quantity of any six-following item of work and enter the same in format of measurement sheet with brief description of item. (Assume column and beam positions) **35**

a) Excavation in foundation.
b) Brickwork in superstructure
c) Concrete in RCC beam
d) Flooring
e) External plaster
f) Internal plaster
g) Skirting




0.45
0.15
Slab
Beam
column
3.1m
PL
0.45
GL
1.00m
0.4m
footing
0.15
PCC
1.2m
0.9m

Seat No.	

Set **P**

B. Architecture (Semester - IX) (CBCS) Examination: March/April – 2026
Project Management (21 AR9-03)

Day & Date: Monday, 18-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks from the options given below. **07**

1) The systematic division of a construction project into smaller, manageable tasks is called _____.
a) Project Planning b) Work Breakdown Structure
c) Site Layout d) Project Life Cycle

2) The stage in the Project Life Cycle where resources are mobilized and actual construction begins is _____.
a) Initiation b) Planning
c) Execution d) Closure

3) The scheduling technique that focuses on critical activities and their dependencies is _____.
a) Gantt Chart b) Bar Chart
c) PERT d) CPM

4) _____ risk occurs due to changes in laws, regulations, or contract disputes.
a) Safety Risk b) Financial Risk
c) Environmental Risk d) Legal Risk

5) The international quality standard widely used in construction projects is _____.
a) ISO 9001 b) ISO 14000
c) ISO 31000 d) ISO 45001

6) In construction site planning, _____ is provided for workers' basic needs.
a) Bar Chart b) Site Office
c) Labour Accommodation d) CPM

7) A system used to track cost and schedule performance in project monitoring is _____.
a) Arbitration b) Earned Value Management
c) ISO Standard d) Risk Analysis

Q.2 Write Short Notes. (Any Three) **15**

a) Explain the importance of Project Life Cycle in construction.
b) Write a short note on Gantt Charts and their role in project scheduling.
c) Methods of Risk Assessment and Mitigation in construction projects.
d) Explain Temporary Facilities & Site Infrastructure in site planning.
e) Discuss the role of Labour Laws in construction projects.

Q.3 Attempt the following questions. (Any Four)

a) Explain the roles and responsibilities of Client, Architect, Contractor, and Project Management Consultant (PMC) in construction projects. **12**

b) 1) Define Work Breakdown Structure (WBS) in building construction. **04**

2) Prepare a sample WBS for a residential project and explain how it helps in project planning. **08**

c) 1) Identify and explain the major types of risks in construction (Financial, Legal, Environmental, Safety). **08**

2) Suggest mitigation strategies for each. **04**

d) Discuss in detail Project Scheduling Techniques - Bar Chart, CPM and PERT with advantages and limitations. **12**

e) Considering the overhead/ indirect cost of 200/- rs per week: **04**
Draw the Network Diagram and,
determine minimum total time and corresponding cost from the table given below. **08**

Activities	Normal time (Tn)	Normal cost (Cn)	Crash time (Tc)	Crash cost (Cc)
1-2	7	700	4	850
1-3	5	500	3	700
1-4	8	600	5	1200
2-5	9	800	7	1250
3-5	5	700	3	1000
3-6	6	1100	5	1300
4-6	7	1200	5	1450
5-7	2	400	1	500
6-7	3	500	2	850

Seat No.	

Set | P

B. Architecture (Semester - IX) (CBCS) Examination: March/April – 2026
Professional Practice- II (21 AR9-04)

Day & Date: Wednesday,20-05-2026 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Write question numbers correctly and neatly.
2) All questions are compulsory.
3) Figures to the right indicate full marks.

Q.1 Choose and write the correct answer. **07**

1) Single stage competitions is also known as _____.
a) Ideas b) Project
c) Both a) & b) d) None of the above

2) The arbitration and conciliation act were enacted in the year _____.
a) 1976 b) 1986
c) 1996 d) 1966

3) The easement act was enacted in the year _____.
a) 1882 b) 1883
c) 1884 d) 1885

4) _____ means that the entire bundle of rights which were vested in the original holder would pass on acquisition to the acquirer by leaving nothing to the former.
a) Acquisition b) Purchase
c) Lease d) Tenement

5) _____ are conditions in agreement which spell out rights and liabilities in a tenant agreement.
a) Covenants b) Rules
c) Regulations d) None of these

6) A person who conducts/promotes /organizes/sponsors for an architectural competition to get large number of ideas is known as _____.
a) Promoter b) Competitor
c) Assessor d) Participant

7) _____ is a person to whom the disputes and differences are referred for necessary adjudication.
a) Arbitrator b) Mediator
c) Conciliator d) None of the above

Q.2 Write Short Notes on. (Any Three) **15**

a) Advantages of participating in Architectural competition to Architect.
b) Arbitral Award
c) Dominant and Servient heritage.
d) Define Dilapidations, Waste, Repair and fixtures.

Q.3 Answer the following. (Any Four) **48**

a) Write in brief the duties and qualifications of an assessor in architectural competitions as per Council of Architecture (COA)
b) Differentiate between Mediation, conciliation and arbitration.
c) Explain the term Easement, characteristics of easement, and methods of acquiring easement.
d) What is meant by acquisition? Write the principles of land acquisition act. Mention the steps involved in the process of acquisition.
e) Difference between dilapidated and ruinous building, landlord and tenant fixtures and voluntary and permissive waste