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FOR AP CLASS 11 EXAM PREPARATION

AP Class 11 2027 Model Paper · Civil Engineering Technician

EXAM	YEAR	TYPE	SUBJECT
AP Class 11	2027	Model Paper	Civil Engineering Technician

MODEL QUESTION PAPER

I YEAR - CIVIL ENGINEERING TECHNICIAN

PAPER I - BUILDING MATERIALS & BUILDING CONSTRUCTION

Time: 3 hours Max. Marks: 50

Section - A

Note: Answer all Questions
Each Question Carries TWO Marks (10 × 2 = 20)

1. Name any two uses of stones.
2. Name any four uses of bricks.
3. What is use of rapid hardening cement?
4. What is meant by bulking of sand?
5. What are the ingredients of concrete?
6. What are the ingredients of varnish?
7. What are the defects in painting?
8. What are the uses of cast iron?
9. Define plinth.
10. What is masonry?

Section - B

Note: Answer any FIVE Questions
Each Question Carries SIX Marks (5 × 6 = 30)

1. Explain the qualities of good building stone.
2. Explain the varieties of cement.
3. Explain the properties of mortar.
4. What is meant by curing of concrete? Explain importance of curing.
5. Explain different defects in timber.
6. Explain the properties and uses of steel.
7. Explain the requirements of good foundation.
8. Explain the effects of dampness.

Model Question Paper
I YEAR - CIVIL ENGINEERING TECHNICIAN
PAPER - II
SURVEYING THEORY

Time: 3 hours **Max. Marks: 50**

Section - A

Note: (i)Answer all Questions
(ii)**Each Question Carries TWO Marks** **10 × 2 = 20 M**

1. Define Surveying.
2. What is ranging?
3. Write types of obstacles in chain surveying.
4. Define Bearing.
5. What is Base line?
6. Define Benchmark.
7. What is curvature correction?
8. What is Back sight?
9. What is a Total station?
10. Write any two objectives of Total Station?

Section - B

Note: Answer any FIVE Questions
Each Question Carries SIX Marks (5 × 6 = 30)

1. Explain the accessories used in chain surveying with neat sketches.
2. Explain the method of indirect ranging.
3. Explain the procedure of chaining along sloped ground.
4. The following are the observed bearings of the lines of a traverse:

Line	F.B.	B.B.
AB	74°00'	254°00'
BC	90°	270°0'
CD	165°0'	345°0'
DE	180°0'	0°0'
EA	188°0'	8°0'

Find the interior angles of the given traverse.

5. The following staff readings were taken with a level, the instrument has been shifted after the 3rd, 6th readings. R.L. of the starting B.M are 100.00. Enter the readings in the form of a level book page and reduce the levels by the H.I. method. Apply usual checks.
   1.50, 2.75, 2.90, 3.00, 3.25, 1.95, 2.80, 3.50, 1.95m
6. Explain the Temporary adjustments of a Theodolite.
7. Explain the procedure of measuring area of a closed Traverse using Total station.
8. Write about the errors in leveling.

Model Question Paper
I YEAR - CIVIL ENGINEERING TECHNICIAN
PAPER - III - ENGINEERING MECHANICS

Time: 3 hours **Max. Marks: 50**

Section - A

Note: (i) Answer all Questions
(ii) **Each Question Carries TWO Marks** **10 × 2 = 20m**

1. Define a) Base Units & b) Derived Units
2. Define Scalar Quantity and Vector Quantity with one example for each.
3. Define centre of gravity.
4. Explain Parallel axis theorem.
5. Define stress and strain.
6. State Hook's law.
7. Define slenderness ratio.
8. What is meant by buckling load or Euler's critical load?
9. List with neat sketches of different types of beams.
10. Define space Diagram.

Section - B

Note: (i)Answer any FIVE Questions
(ii)**Each Question Carries SIX Marks** **5 × 6 = 30m**

1. (A) List the four systems of measurement commonly used.
   (B) Mention the base units and derived units in S.I. Units.
2. Define (a) Co-planar forces. (b) Non-coplanar forces.
3. Find the Magnitude and Direction of a resultant of two forces 50N and 70N acting at a point with an included angle of 60° between them.
4. Determine the centre of gravity of I section having the following dimensions:

Bottom flange: 300 × 100 mm Top flange: 150 × 50 mm Web: 50 × 400 mm

5. A mild steel rod of 10mm diameter and 300mm length elongated 0.8mm under an axial pull of 10kN. Determine the Young's Modulus of material.
6. A mild steel column 5m long and 50mm diameter has both its sides hinged. Determine the Euler's Crippling load. Take $E = 2 \times 10^5$ N/mm².
7. A cantilever of span 4m carries a uniformly distributed load (U.D.L.) of 3 KN/m on whole span. Determine maximum shear force and maximum bending moment.
8. A horizontal beam of 12m long is simply supported at its ends, and is subjected to vertical loads of 10KN, 20KN and 25KN at 3m, 7m and 10m from the left support respectively. Draw shear force and bending moment diagrams including values at salient points.