DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – Oct 2018

Course : B. Tech in CIVIL ENGINEERING **Semster : III**

Subject Name: Mechanics of Solid (SOM) **Subject Code: CV302**

Max Marks: 20 **Date: 9th October 2018** **Time: 3 pm to 4 pm** **Duration: 1 Hour**

Instructions to the Students:

1. Assume suitable data wherever necessary and State it clearly.
2. Figures to Right Indicate full Marks.
3. L indicates Low Level, M indicates Medium Level & H indicates High Level.

QUESTIONS Marks

Q. 1 Attempt following Questions (6 Marks) **6**

1. Define Strain
2. Define Poissons ratio
3. Define Longitudinal Stress
4. Define Pure Torsion
5. Define Strain Rosette
6. Define Principal Stress

Q.2 Solve Any TWO of the following. **6**

(A) Explain the Stress Strain Curve for Mild Steel Bar.

(B) The pipe of 400 mm internal diameter and 100 mm thickness contains a fluid at pressure of 8 N/mm^2. Find the Maximum and Minimum Hoops Stress across the Section. Also Sketch the Radial and Pressure Distribution and Hoop stress distribution across the Section.

(C) In a tensile test, a piece 25 mm in diameter, 200 mm gauge length is stretched 0.0975 mm under a pull of 50 kN. In a Torsion test, the same rod is twisted 0.025 radians over a length of 200 mm, when the torque of 400 Nm was applied. Evaluate the Poissons ratio and three Elastic Moduli for the material.

Q. 3 Solve ANY ONE of the following. **8**

(A) Derive the Torsion Formula.

(B) A steel Plate 15 mm x 30 mm is testd by pulling it with a tensile force of 45 kN, the line of action of the load being 35 mm from one edge. An extensometer set along the line of the action of the load shows the extension of 0.055 mm over a gauge length of 125 mm. Determine the extreme stresses for the Plate section and the Young's Modulus of Steel.

***** End *****

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Mid Semester Examination – Oct 2018

Course: B. Tech in Civil Engineering **Sem: III**

Subject Name: Hydraulics I **Subject Code: CV 303**

Max Marks:20 **Date:- 10/10/2018** **Duration:- 1 Hr.**

40
40
40
20

Instructions to the Students:

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

		Marks
Q. 1	**Attempt following Questions**	**6**
	1. Which one of the following is not a unit of dynamic viscosity? a) Pa-s b) N-s/m2 c) Poise d) Stokes	
	2. Which one of the following is the correct relation between compressibility β and Bulk Modulus k a) β = k b) β = 1/k c) β = 2k d) β = k/2	
	3. 15 bar equals to _____ Pascals. a) 10^5 Pa b) 1.5 x 10^6 Pa c) 100 Pa d) 1000 Pa	
	4. Which one of the following is the unit of pressure? a) N b) N/m c) N/m2 d) N/m3	
	5. The velocity of a point in a flow is a) along the streamline b) tangent to the streamline c) along the pathline d) tangent to the pathline	
	6. The velocity vector in a fluid is given V=5x4+3y2+2z(in metre/sec). What is the acceleration of it at point (1,3,4) ? a) 40 m/s2 b) 20 m/s2 c) 60 m/s2 d) 80 m/s2	
Q.2	**Solve Any Two of the following.**	**3 X 2**
(A)	Define and explain following terms i) Viscosity ii) surface tension iii) capillarity	
(B)	List the various pressure measuring devices and explain simple U-tube manometer.	
(C)	A 60 cm diameter pipe carries petrol (G = 0.7) at velocity of 1.5 m/s. At another section, the diameter is 40 cm. Find the velocity at this section and also mass rate of flow of oil.	
Q. 3	**Solve Any One of the following.**	**8**
(A)	Derive metacentric height by analytical method.	
(B)	Derive Continuity equation in Cartesian co-ordinates.	

***** End *****

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Mid Semester Examination – Oct 2018

Course : B. Tech in CIVIL ENGINEERING **Semster : III**

Subject Name: Engineering Geology **Subject Code: CV306**

Max Marks: 20 **Date: 13th October 2018** **Time: 3 pm to 4 pm** **Duration: 1 Hour**

Instructions to the Students:

1. Assume suitable data wherever necessary and State it clearly.
2. Figures to Right Indicate full Marks.
3. L indicate Low Level, M indicates Medium Level & H indicates High Level.

QUESTIONS Marks

Q. 1 Attempt following Questions (6 Marks) **6**

1)**An instrument which is use to measure earth quake waves is known as :**

(a)Thermograph (b)Hygrograph (c) Seismograph (d)Anemometer

2) Deccan trap mountains are --------

a) depositional mountains(b)folded mountains (c) Block mountains

(d)Erosional mountains

3. **Dendritik Drainage is related to**

a)Glacier (b)Wind (c)River (d) Underground water

4. **Conrad discontinuity is present in _____ layer of the earth**

(a)Crust (b)Upper Mantle (c)Lower Mantle (d)Core

5. **Grit is a _____ type of Rock.**

(a) Rudaceous rock (b)Arenaceous Rock (c)Argillaceous(d) Residual Rock

6. **Bauxite Exhibits _____ type of Texture.**

(a) Granitic (b) Aphanitic (c) Peasolitic (d) Clastic

Q.2 Solve Any TWO of the following. **6**

(A) What is sedimentary rock? Explain Chemical deposites

(B) Define Unconformity and Explain its types

(C) Describe in detail Agents of Metamorphism

Q. 3 Solve ANY ONE of the following. **8**

(A) What is Volcano? Describe classification of Volcano on the basis of mode of Erruption

(B) Define Fault and Explain in detail various types of faults

(18)

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – Oct 2018

Course: B. Tech in Civil Engineering **Sem: III**

Subject Name: Building Construction **Subject Code:CV305**

Max Marks: 20 **Date:-12/10/18** **Duration:- 1 Hr.**

Instructions to the Students:

1. Illustrate your answers with neat sketches, diagrams etc. where ever necessary.
2. Necessary data is given in the respective questions. If such data is not given, it means that the knowledge of that data is a part of the examination.
3. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

Marks

Q. 1 Select appropriate answer for the given multiple choice questions. **6**

1. M10 grade of concrete approximates

a) 1 : 3 : 6 mix b) 1 : 1 : 2 mix c) 1 : 2 : 4 mix d) 1 : 1.5 : 3 mix

2. Separation of coarse aggregates from mortar during transportation, is known

a) Bleeding b) Creeping c) Segregation d) Shrinkage

3. Gypsum is added for

a) colour b) strength c) controlling setting time d) none of these.

4. _____ is the clear vertical distance between the highest point on the intrados and springing line.

a) Span b) Rise c) Arcade d) Center

5. Ashlar masonry uses:

a) Dimension stones b) Polygonal stones c) Quarry dressed stones d) Rough stones

6. At present, the lintels of _____ are widely used to span the openings for doors, Windows, etc. in a structure.

a) Timber b) Wood c) RCC d) Cement

3 X 2

Q.2 Solve Any Two of the following.

(A) Write a short note on chemical admixture

(B) Define the following terms
Header, Stretcher, Bond, Quoin, Closer, Through stone, Face, Back

(C) Classify various types of lintels and explain any one detail

8

Q. 3 Solve Any One of the following.

(A) Draw a neat sketch of an arch and explain all technical terms of arch

(B) Differentiate and compare English bond, Flemish bond and Double Flemish bond with sketch

***** End *****