



**PRESIDENCY UNIVERSITY,
BENGALURU**

SCHOOL OF ENGINEERING

TEST 2

Odd Semester: 2018-19

Course Code: CIV 101

Course Name: Elements of Civil Engineering

Branch & Sem: Physics Cycle & I Semester

Date: 28 November 2018

Time: 1 Hour

Max Marks: 40

Weightage: 20%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator is permitted.

Part A

Answer **all** the Questions. **Each** question carries **four** marks.

(3x4=12)

1. Match the following according to unit treatment with their respective function.

1. Screening	a. Pathogenic bacteria, Organic matter
2. Softening	b. Suspended matter
3. Sedimentation	c. Floating matter
4. Disinfection	d. Hardness

2. What are the sources and effects of noise pollution?

3. Write a note about GIS and GPS.

Part B

Answer **all** the Questions. **Each** question carries **eight** marks.

(2x8=16)

4. What is the role of construction manager? Also list the components of town planning.

5. List the components of airport and explain types of pavement.

Part C

Answer the Question. Question carries **twelve** marks.

(1x12=12)

6. Determine the resultant force acting on the structure at point O both in magnitude and direction as shown in Figure 01. The distance OA is 6 meters.

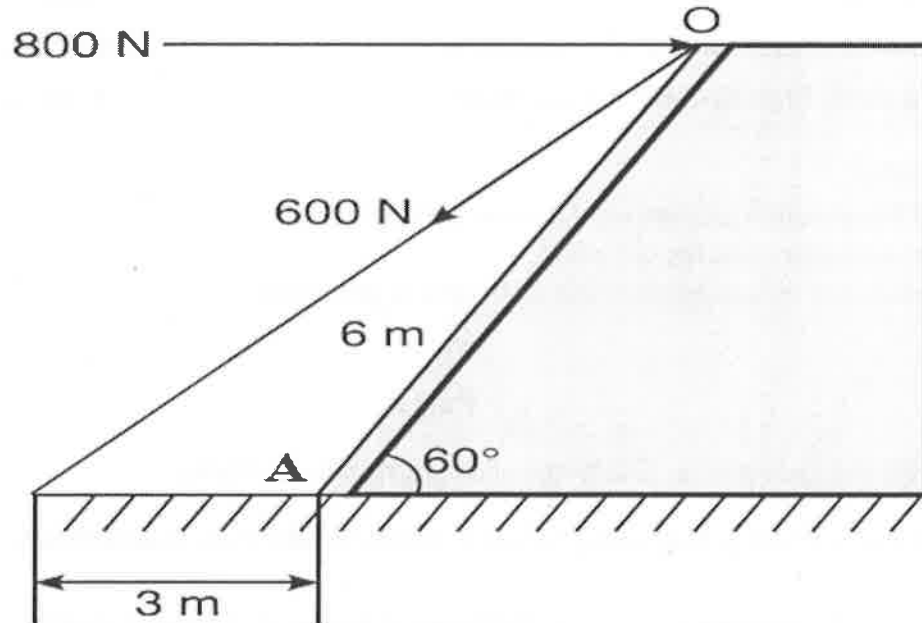


Figure 01.



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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SET A

END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Date: 09 January 2019

Course Code: CIV 101

Time: 2 Hours

Course Name: Elements of Civil Engineering

Max Marks: 80

Programme & Sem: B.Tech (Physics Cycle) & I Sem

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator is permitted.

Part A

Answer **all** the Questions. **Each** question carries **five** marks.

(4Qx5M=20)

- 1. Explain properties and types of couple with neat sketch.
- 2. What is the role of civil engineer in infrastructure development?
- 3. List the any five important aspects of green buildings.
- 4. Write note on fixed support and cantilever beam.

Part B

Answer **all** the Questions. **Each** question carries **ten** marks.

(4Qx10M=40)

- 5. A rope supporting two loads W and P as shown in Figure 1. If BC is horizontal and $W = 600$ N, determine the load P . Also, find the tensile forces developed in the different segments of the rope.

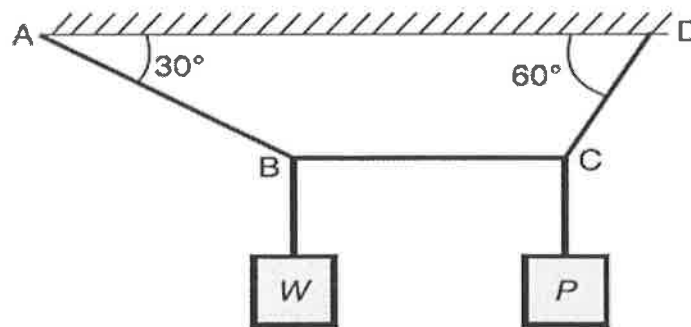


Figure 1.

- 6. A horizontal shaft with inner clearance of 1000 mm carries two spheres of radius 350 mm (sphere 1) and 250 mm (sphere 2) as shown in Figure 2. The weights are 600 N (sphere1) and 500 N (sphere 2) respectively. Find the reactions at all the points of contact.

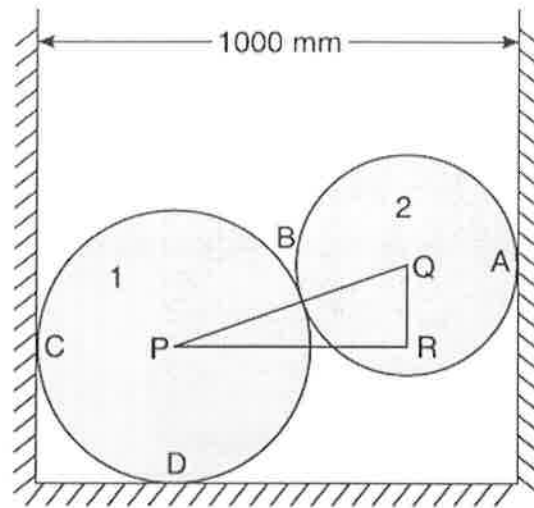


Figure 2.

7. Determine the support reactions of the overhanging beam shown in Figure 3.

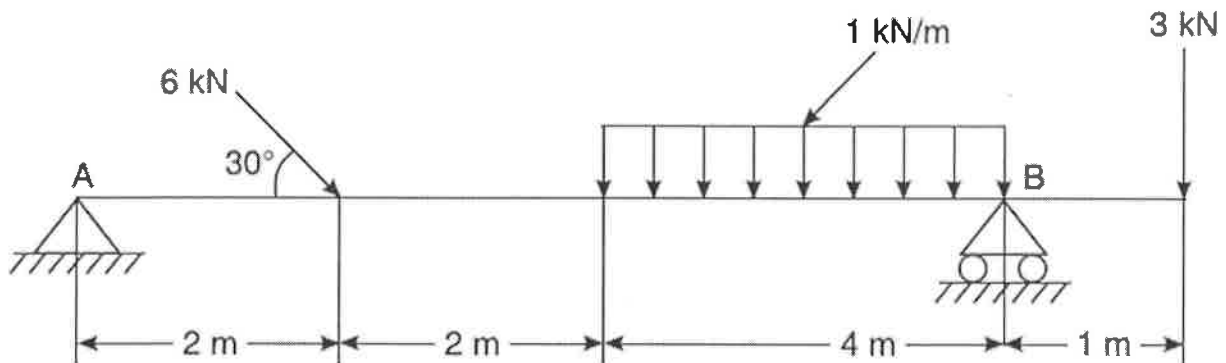


Figure 3.

8. A simply supported beam of span 6 m is subjected to loading as shown in Figure 4. Determine the reactions at A and B.

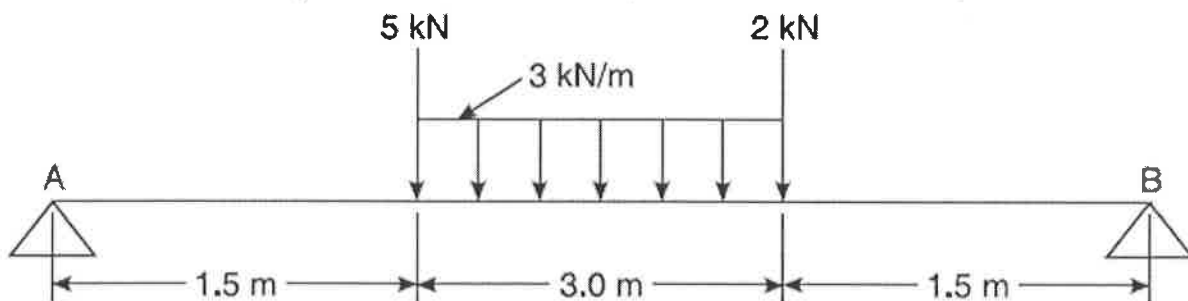


Figure 4.

Part C

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

9. Explain any five requirements of good building stones.
10. Write short note on constituents of good brick earth.



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SCHOOL OF ENGINEERING

SET B

END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Date: 09 January 2019

Course Code: CIV 101

Time: 2 Hours

Course Name: Elements of Civil Engineering

Max Marks: 80

Programme & Sem: B.Tech(Physics Cycle) & I Sem

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) The question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **all** the Questions. **Each** question carries **five** marks.

(6Qx5M=30)

1. What is the role of civil engineers in infrastructural development?
2. List the various requirements of good building stones.
3. What are the constituents of good bricks and their percentage in bricks?
4. What are the important aspects of green building?
5. A cantilever beam of length L is subjected to an external moment M kN-m in anticlockwise direction on its free end. Find the support reactions.
6. What are the equilibrium equations for different force systems?

Part B

Answer **all** the Questions. **Each** question carries **ten** marks.

(3Qx10M=30)

7. A square ABCD of 60 mm side is subjected to a force of 10N, 20N, 30N and 40N along the sides of AB, AC, BD and AD respectively. Find the magnitude, direction and position of resultant force with respect to point A.
8. Explain Lami's Theorem. A sphere weighing 100N is filled in a right-angled notch as shown in figure 1. If all contact surface is smooth, then calculate the reactions at contact surfaces.

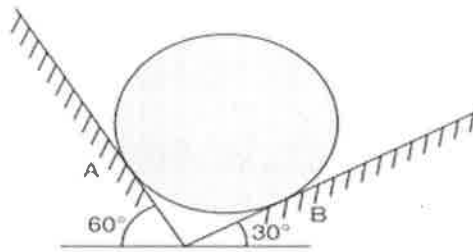


Figure 1

9. A system of connected flexible cables as shown in figure 2, is supporting the two vertical forces of 500 N and 300 N at points B and D. Determine the forces in the various segments of the cable.

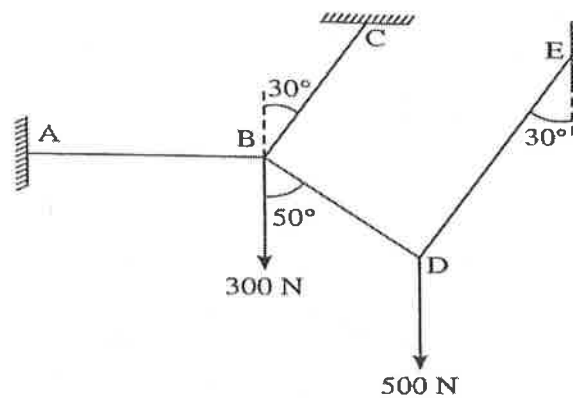


Figure 2

Part C

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

10. Explain about the various type of supports and beams.

11. Find the support reaction for the beam as shown in figure 3.

$AD=BE=2\text{m}$, $AC=BC=3\text{m}$

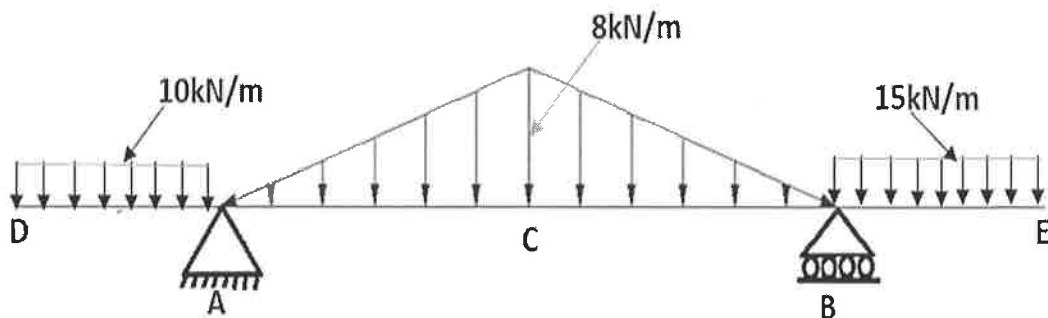


Figure 3