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SUB CODE: 19KBBCV13/23

**Faculty of Engineering and Technology**  
**Second Semester Degree Examination**  
**SUB: BASIC CIVIL ENGINEERING**

Time: 3 Hrs

Max Marks: 100

**Section-A**

I. Answer any Ten Questions from the following (02 marks each).

(02x10=20 marks)

- Q1.) Write a short note on Structural Engineering.
- Q2.) Write a short note on Hydraulics.
- Q3.) Write a short note on water resource and irrigation engineering.
- Q4.) Write a short note on Transportation Engineering.
- Q5.) Define a Road.
- Q6.) Define a bridge.
- Q7.) Define a culvert.
- Q8.) Write the uses of bricks.
- Q9.) Write the uses of cement.
- Q10.) Write the uses of steel.
- Q11.) Define a particle.
- Q12.) Define continuum force.
- Q13.) Define rigid body.
- Q14.) Define force.
- Q15.) Define moment.

**Section-B**

II. Answer any Five full Questions from the following (08 marks each).

(08x5=40 marks)

- Q1.) Describe gravity dam and with a neat sketch label the parts of a bridge.
- Q2.) Describe any eight points of the role of a civil engineer.
- Q3.) With a neat sketch explain through bridge and semi-through bridge.
- Q4.) With a neat Sketch explain RCC and Composite Bridges.
- Q5.) Explain the properties of hard steel.
- Q6.) Distinguish between hard steel and mild steel.
- Q7.) With an example explain principle of transmissibility of force.
- Q8.) Derive an expression for the centroid of a triangle.

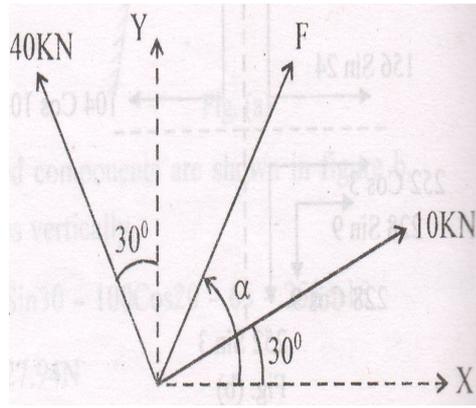
**Section-C**

III. Answer any Four full Questions from the following (10 marks each).

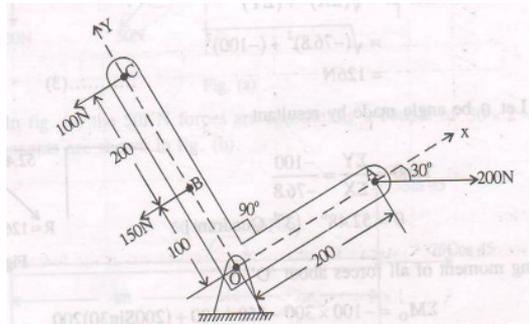
(04x10=40 marks)

- Q1.) Explain the impact of infrastructural facilities on Socio-economic development of a Country.
- Q2.) Explain the classification of roads based on location and their functions.
- Q3.) Briefly explain different types of dams based on materials, Hydraulic design and Use.
- Q4.) Explain the classification of bricks and mention its uses.

Q5.) Find the magnitude and direction of force F if the resultant is 72KN and is acting along Y-axis as shown in below fig.



Q6.) Three external forces are acting on a L-shaped lever as shown in. Determine the equivalent system through O as shown in below fig.



Q7.) Locate the centroid of the C-section as shown in the below fig.

