KBNU
KHAJA BANDANAWAZ
UNIVERSITY
EDUCATING HUMANITY

UIN ☐☐☐☐☐☐☐☐☐☐

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.) Define a dam.
Q2.) Write a short note on Environmental Engineering.
Q3.) Define an equilibrant.
Q4.) State Newton's First law.
Q5.) Define moment of a couple.
Q6.) List the types of culverts.
Q7.) List the type of dams.
Q8.) What is metamorphic rock.
Q9.) What is igneous rock.
Q10.) Define a coplanar force.
Q11.) Define a collinear force.
Q12.) What is parallel force.
Q13.)Define centroid.
Q14.) Define centre of gravity.
Q15.) Define superposition of force.

Section-B

II. Answer any **Five full Questions** from the following *(08 marks each).*   **(08x5=40 marks)**

Q1.) Briefly give the scope of different fields in Civil Engineering..
Q2.) Explain the method to resolve any coplanar concurrent system.
Q3.) Explain the characteristics of couple.
Q4.) Explain with an example the elements of force.
Q5.) Explain the method to resolve any coplanar concurrent system.
Q6.) Explain the classification of force system.
Q7.) Derive an expression for the centroid of a circular sector.
Q8.) Determine the centroid of a right angle triangle of base 'b' and height 'h' from first Principle.

Section-C

III. Answer any **Four full Questions** from the following *(10 marks each).*   **(04x10=40 marks)**

Q1.) Explain the different types of Culverts with sketches.
Q2.) With a neat sketch explain earthen dam and its functions.
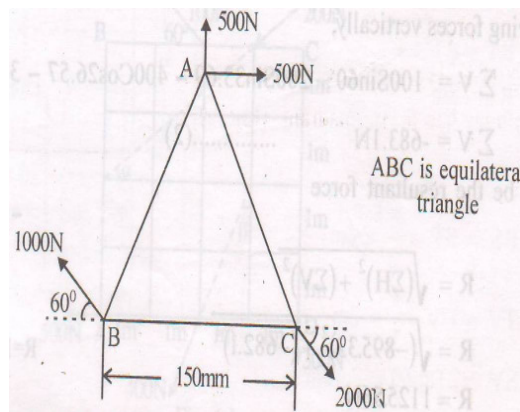Q3.) With a neat sketch explain the water bound macadam road.

Q4.) Find the value of W which is required to maintain equilibrium configuration as shown in the below fig
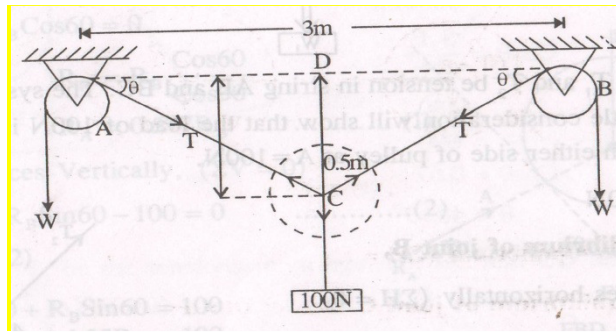
Q5.) Find the forces on a bolt as shown in the below fig. Determine the resultant of forces on the bolt.
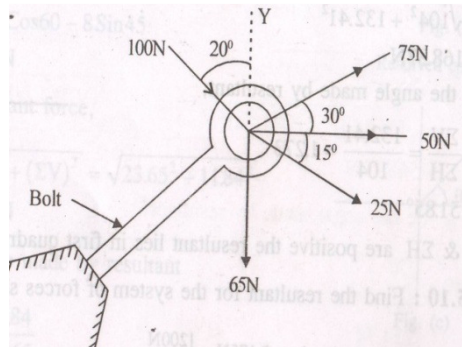
Q6.) Determine the resultant and equilibrant of the forces acting as shown in the below fig.

Q7.) A semicircle of diameter 100m is cut out from a quarter circle of radius 100mm. Locate the centroid of the shaded area as shown in the below fig.