

LOVELY PROFESSIONAL UNIVERSITY

Academic Task: CA-2

School: Computer Science Engineering

Faculty of: Mechanical Engineering Department

Name of the faculty: Sanchit Singla

Course Code: MEC107

Course Title: Basic Engineering Mechanics

Term: 20211

Max. Marks: 30

Date of Allotment: March 30, 2021

Date of Submission: April 10, 2021

Important Guidelines:

1. All questions in this Academic Task are compulsory.
2. It is mandatory to attempt all questions of the assignment in your own handwriting on A4 size sheets/pages with a blue colour ink pen. Any other mode of attempt (typed or printed codes or table) except hand written/drawn will not be accepted/considered as valid submission(s) under any circumstances.
3. Every attempted sheet/page should carry clear details of student such as Name, Registration number, Roll number, Question number and Page number. The page numbers should be written clearly on the bottom of every attempted sheet in a prescribed format as: for page 1; **Page 1 of 4**, for page 2; **Page 2 of 4**, for page 3; **Page 3 of 4** and for page 4; **Page 4 of 4**, in case your assignment/document is of 4 pages.
4. After attempting the answer(s), student needs to take photograph of each of these answer sheets/pages and needs to convert the **jpeg** format images into a sequential single **pdf** format document (can be done with many free online available converters).
5. This PDF file should be uploaded onto the UMS interface on or before the last date of the submission.
6. Refrain from indulging into plagiarism as copy cases will be marked zero.

Evaluation Criterion: Rubrics on different parameters

Question-1 Find the centroid of the shaded area about given axis. Figure: 1a and Figure: 1b

Question-2 Find the moment of inertia about centroidal X-axis and centroidal Y-axis of the given geometry Figure: 2a and 2b

Question-3 Find the magnitude and nature of the forces in all the members of the given truss. Figure: 3a and 3b

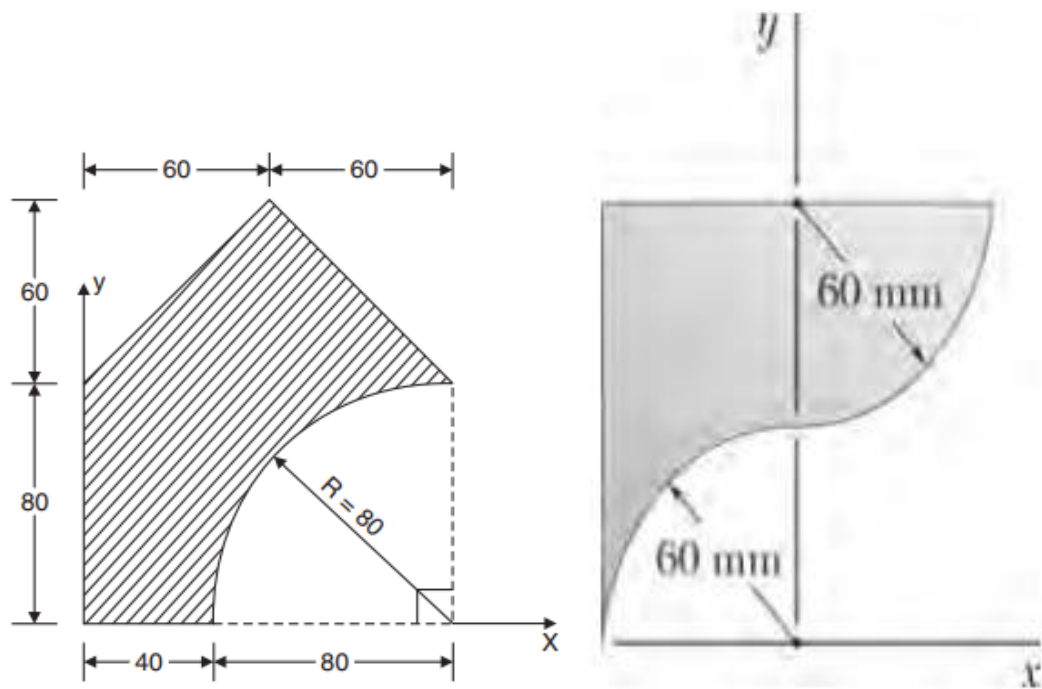
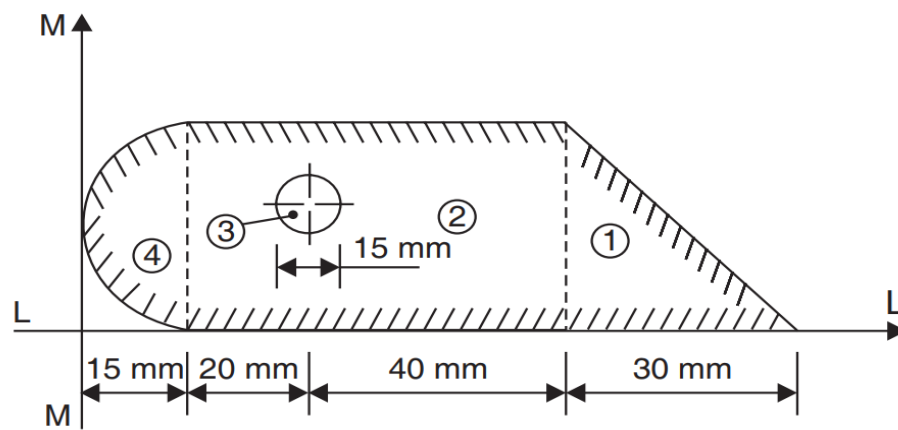


Figure: 1a and Figure: 1b



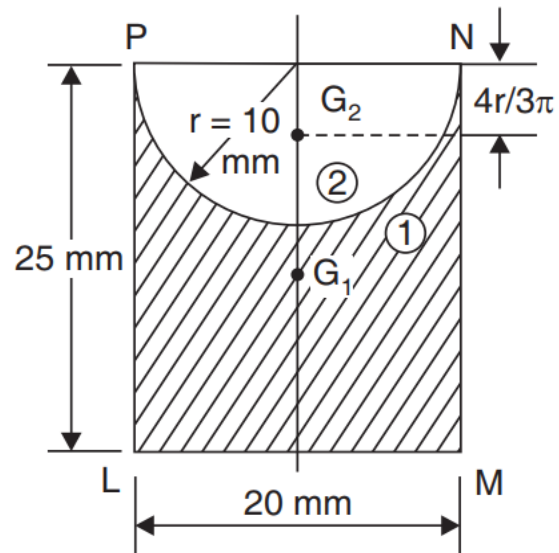
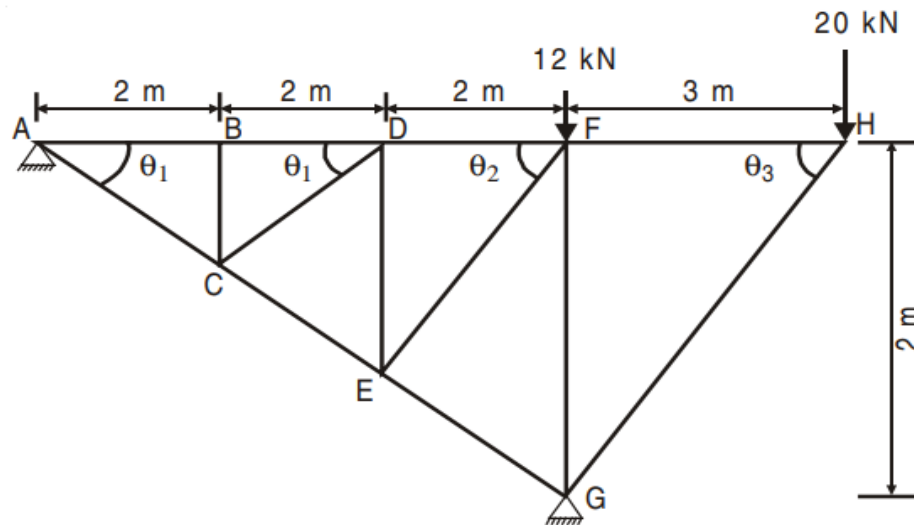


Figure: 2a and 2b



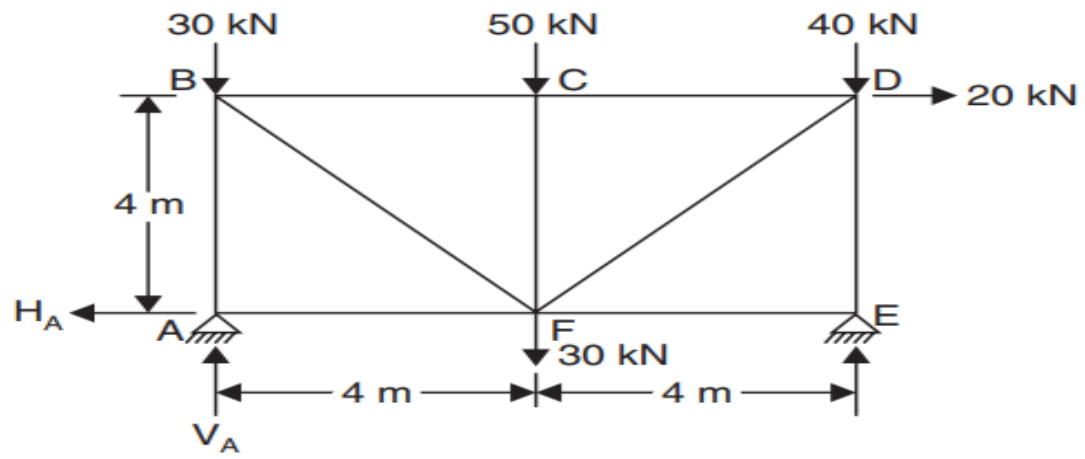


Figure: 3a and 3b