



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

DIPLOMA IN MECHANICAL ENGINEERING

MED-PR 211: ENGINEERING DRAWING II

DATE: 23/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

Answer Question 1 and any other Three questions in this examination.

You should have drawing papers, size A3.

1. Figure 1 shows a machine part, draw in FIRST angle projection the following views to a scale of 1:4;
 - a) Sectional front elevation along cutting plane A-A.
 - b) End elevation;
 - c) Plan.Include six dimensions. (40 marks)
2. Figure 2 shows a hexagonal prism cut by plane D-D. Draw the following:
 - a) Views A and B;
 - b) Auxilliary elevation along the cutting plane D-D to show the true shape of the section. (20 marks)
3. Figure 3 shows two views of a machined block. Draw the block in isometric projection with corner X as the lowest point. Indicate Five mensions. (20 marks)
4. Figure 4 shows a truncated hexagonal pyramid cut by plane A-A. Draw:

- a) the plan;
 - b) end elevation;
 - c) the development of the portion below the plane without the base. (20 marks)
5. A radial plate cam imparts the following types of motion to a vertical roller follower.
- 0°-120°: 30 mm rise with uniform acceleration;
- 120°-210°: A further 20 mm rise with uniform retardation;
- 210° - 240°: Top dwell
- 240° - 330°: 50 mm fall with simple harmonic motion;
- 330°-360°: Bottom dwell.
- Cam data: Direction of rotation. =clockwise
- Roller follower diameter. =14 mm
- Least distance from the roller. =50 mm
- Cam shaft diameter. =25 mm.
- Construct the performance graph and the cam profile. (20 marks)