



CAT 1 - CAD Mechanical Engineering

Mechatronics engineering (Jomo Kenyatta University of Agriculture and Technology)



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W1-2-60-1-6
JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY
EMG 2204: COMPUTER AIDED DRAWING
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
CAT 1

DATE: DECEMBER, 2024

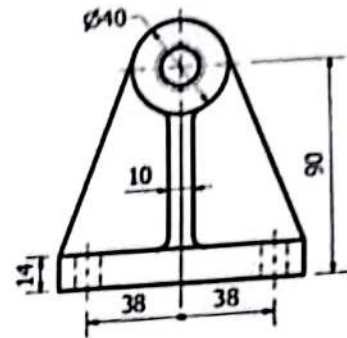
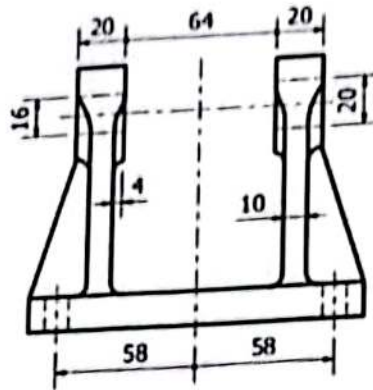
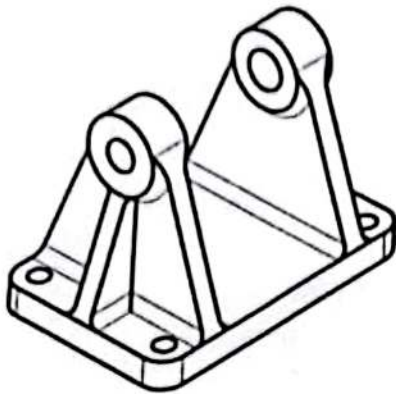
TIME: 1.5 HOURS

Instructions

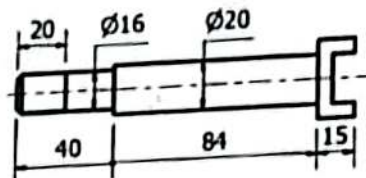
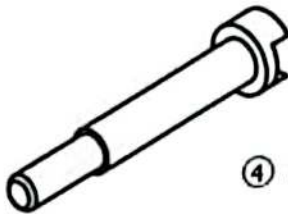
1. Create a folder on the desktop and name it with your Registration Number. Save your work progressively in that folder.
2. All dimensions are in millimeters unless otherwise stated.
3. Unspecified dimensions are to be taken as per choice.

Figure 1 shows pulley details in first angle ORTHOGRAPHIC projection. The bracket provides support, the axle bolt holds the pulley and is fastened to the bracket by nut and washer. The bushes are inserted between the axle bolt and the pulley to reduce friction. The basic sizes of the parts are given and assembly tolerances are ignored. Using Autodesk Inventor;

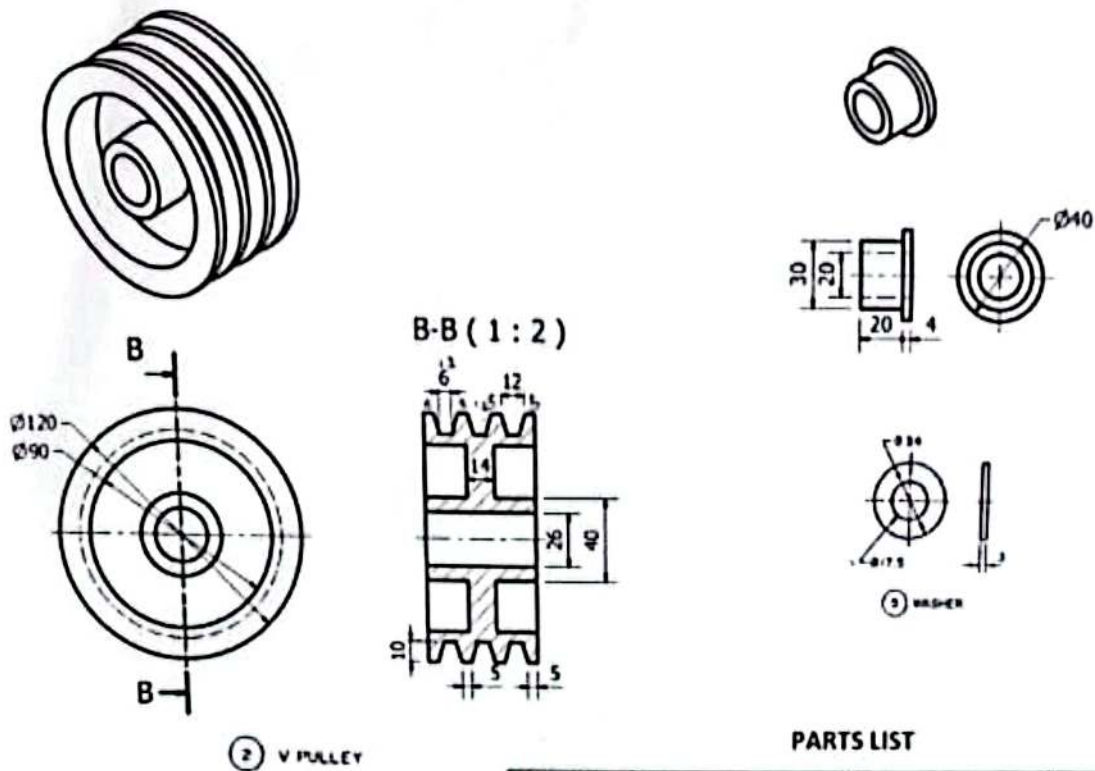
- | | |
|--|------------|
| i. Draw each part, | [18 marks] |
| ii. Assemble the parts, | [4 marks] |
| iii. Create an exploded projection of the assembly. | [4 marks] |
| iv. Create a working drawing with the assembly, exploded view and a parts list | [4 marks] |



① BRACKET



④ AXLE BOLT



PARTS LIST

PART NO.	DESCRIPTION	MATERIAL	NO. PER ASSY
1	BRACKET	CAST IRON	1
2	V PULLEY	CAST IRON	1
3	BUSH	PHOSPHOR BRONZE	2
4	AXLE BOLT	MILD STEEL	1
5	M16 PLAIN WASHER	MILD STEEL	1
6	M16 X1.5 HEX NUT	MILD CARBON STEEL	1

Figure 1