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ME 181305

Roll No. of candidate

20/2/23

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2023

BINA CHOWDHURY
(GIMT & GIPB)
Azara, Hatkhovapara,
Guwahati - 781017

B. Tech. 3rd Semester End-Term Examination

Mechanical Engineering

MACHINE AND ASSEMBLY DRAWING

(New Regulation & New Syllabus)

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *four* from the rest.

1. Answer the following : (MCQ/ Fill in the blanks) : (10 × 1 = 10)
- (i) _____ type of threads are used for fastening and _____ type of threads are used for transmitting motion.
 - (ii) Knuckle thread is a modified form of _____ thread.
 - (iii) _____ is in the form of a ring provided with slots in the curved surface for a special C- spanner.
 - (iv) A _____ is a sunk key of uniform thickness.
 - (v) In double riveted _____ butt joint, two cover plates are used.
 - (vi) In a CAD system, you can draw an ellipse by specifying these:
 - (a) The bounding lines
 - (b) The midpoint and end points
 - (c) The center and major and minor axes
 - (d) The center and radius
 - (vii) This type of weld is the most common in structural steel fabrication:
 - (a) Fillet weld
 - (b) Beam weld
 - (c) Rivet weld
 - (d) Structural weld

[Turn over

(viii) In order to create one solid model from two or more separate solid shapes, the drafter will need to position them and then _____

- (a) Use Union to join them
- (b) Use the Join command
- (c) Use the Add Parts tool
- (d) None of the above

(ix) The function of a washer is

- (a) Provide smooth surface in place of rough surface
- (b) To provide cushioning effect
- (c) To absorb shocks and vibrations
- (d) To provide bearing area

(x) A fillet command is used to produce

- (a) Sharp corners
- (b) Round corners
- (c) Both of the above
- (d) None of the above

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2. Sketch neatly, any three of the following thread profiles assuming a pitch of 30 mm. (3 × 5 = 15)

- (a) Buttress thread
- (b) BSW Thread
- (c) Knuckle thread
- (d) Acme thread

3. Using first angle projection, draw the following views of hexagonal bolt 100 mm long, 24 mm diameter and a thread length of 50 mm with a hexagonal nut and washer assembly. (8+7=15)

- (a) Front View
- (b) Left side view.

4. Prepare a dimensioned sketch with following views of a cotter- joint with socket and spigot ends for two 40 mm diameter rods. (8+7=15)

- (a) Front View
- (b) Side view from left.

5. Draw the sectional front view and top view of a Double Riveted Lap Joint using rivets in Zig-Zag arrangements. Thickness of the plate=10 mm and diameter of rivets=20 mm. Show all the dimensions in the drawing. (8+7=15)

6. Draw sectional front view and side view of a hydraulic pipe joint of protected type flanged type, to connect two C.I. pipes, each of 100 mm diameter. (8+7=15)

7. Details of a stuffing box are shown in figure 1. Draw the following views of the stuffing box all parts assembled together. (8+7=15)

- (a) Sectional front view
 (b) Top view.

The particulars of parts are shown in the table below.

5.	Studs and nuts	3	C-30	Equally spaced at 120°
4.	Neck bush	1	Brass	
3.	Stuffing box	1	C.I.	
2.	Gland bush	1	Brass	
1.	Gland	1	C.I.	
No.	Name of part	No. of	Material	Remark

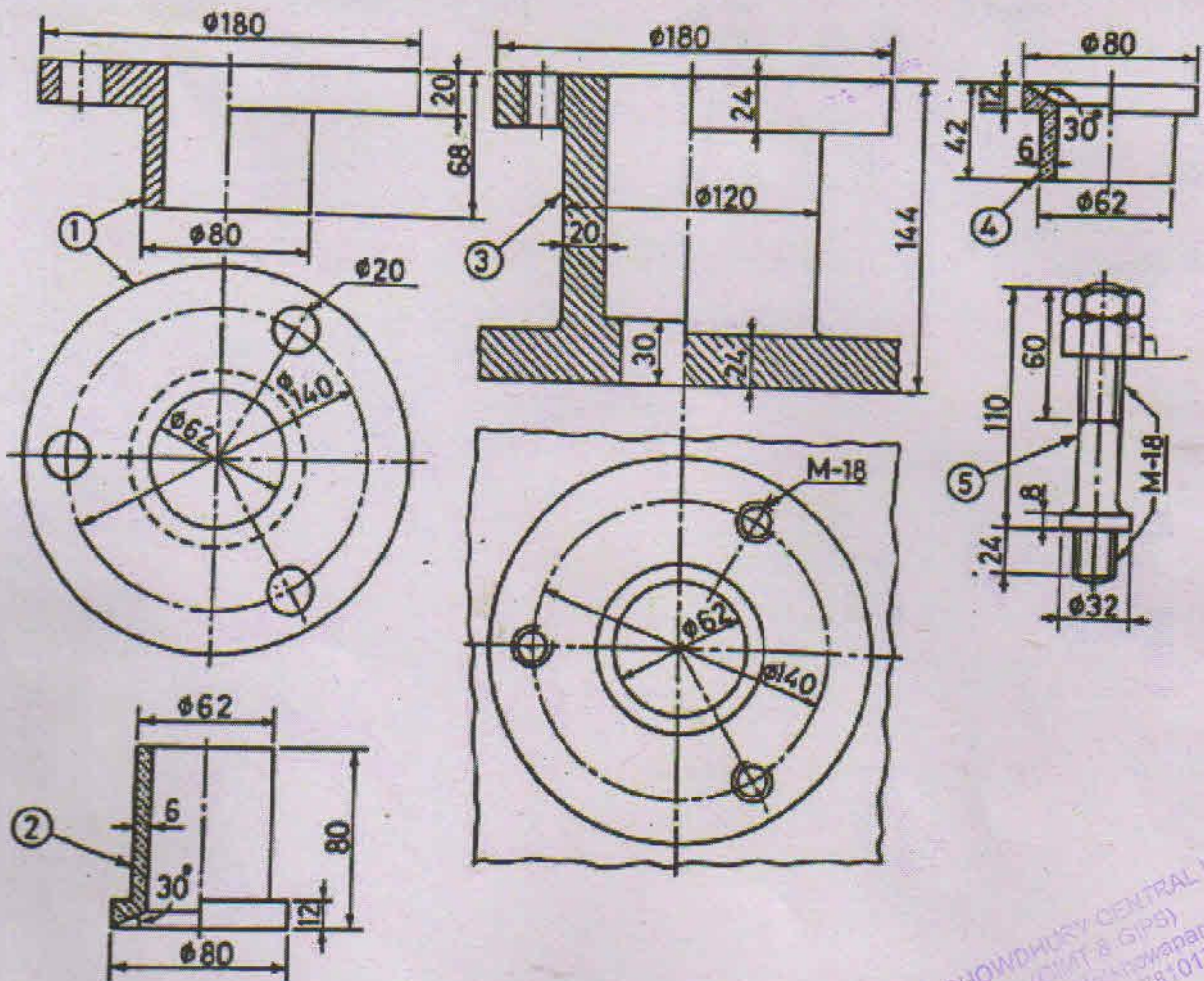


Figure - 1

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