

[Total No. of Questions: 07]

MORNING

[Total No. of Pages: 02]

06 JAN 2023

Uni. Roll No.

Program/ Course: B. Tech. (Sem. 3rd)

Name of Subject: **Machine and Computer Aided Design**

Subject Code: **PCME-104**

Paper ID: **16075**

Scientific calculator is Allowed

Time Allowed: 04hrs

Max. Marks: 60

Note:

1. **Section-A** is compulsory.
2. **Section-A** and **Section-B** are based on part-A (Theory) of syllabus [both Traditional Machine Drawing(TMD) and Computer Aided Design(CAD)]
3. Attempt any one question from **Section-C**.
4. Section is out of part-B Practice (Drawing) portion of syllabus Traditional Machine Drawing (TMD) Only.
5. Any missing data may be assumed appropriately.

Section – A

[Marks: 02 each]

Q1.

- a) What is the specific use of an expansion joint?
- b) Draw the free hand sketch of hexagonal nut.
- c) What is Pitch?
- d) What is Oldham's coupling? What are the advantages?
- e) What is the advantage of providing bush in a bearing?

Section – B

[Marks: 05 each]

Section-B1

Q2. Sketch free hand full sectional front view of pin type flexible coupling.

Q3. Draw the sectional front view and top view of a double riveted lap joint (chain type), for 9mm thick plates. Take the diameter of rivet=24mm.

Section-B2

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Q4. Define CAD? What are its advantages?

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Q5. Explain any 5 modify commands used in CAD.

Section – C

[Marks: 30 each]

Q6. Assemble the parts of Spring Loaded Safety Valve given in Fig.1 and draw the following views in first angle:

- a) Front view full in section
- b) Top view

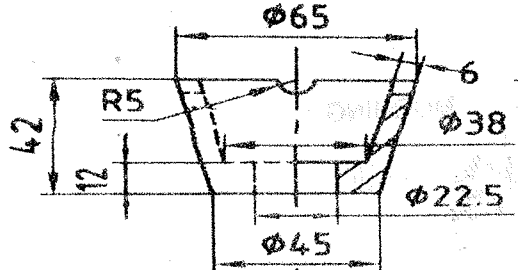
Q7. Fig.2 shows the details of a Screw Jack, draw the following views of the assembly using first angle:

- a) Half sectional front view
- b) Top view

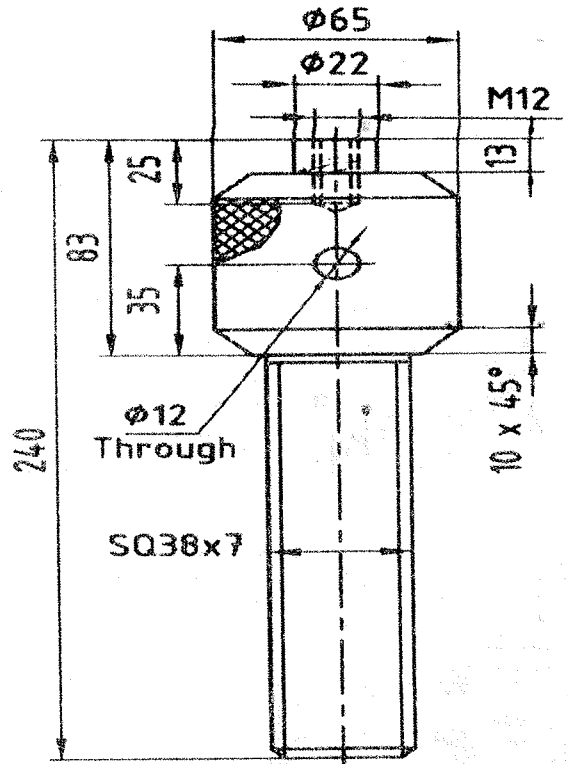
DETAILS OF SCREW JACK

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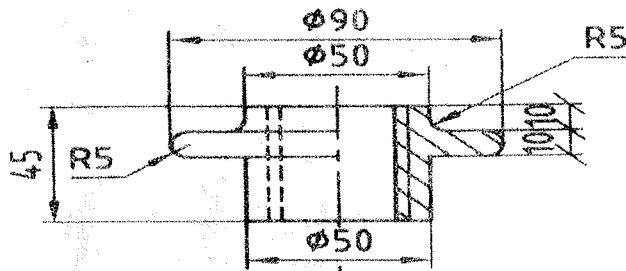
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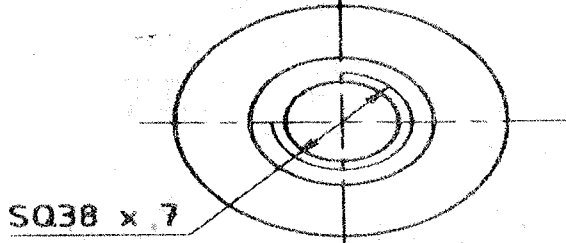
CUP (CAST STEEL)



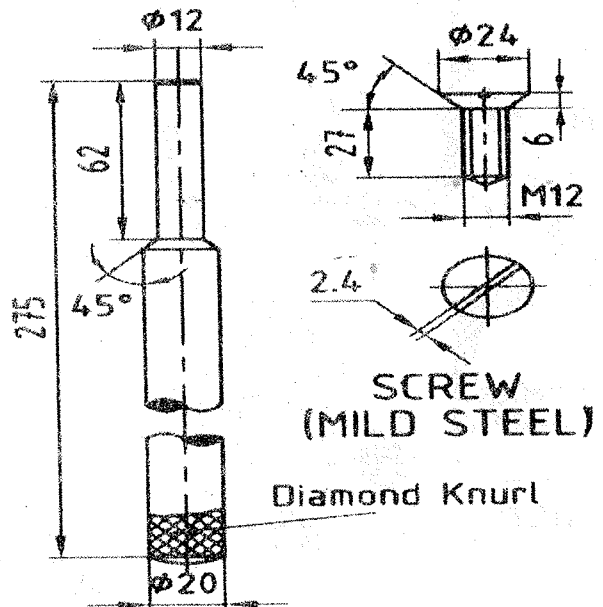
SCREW SPINDLE (MILD STEEL)



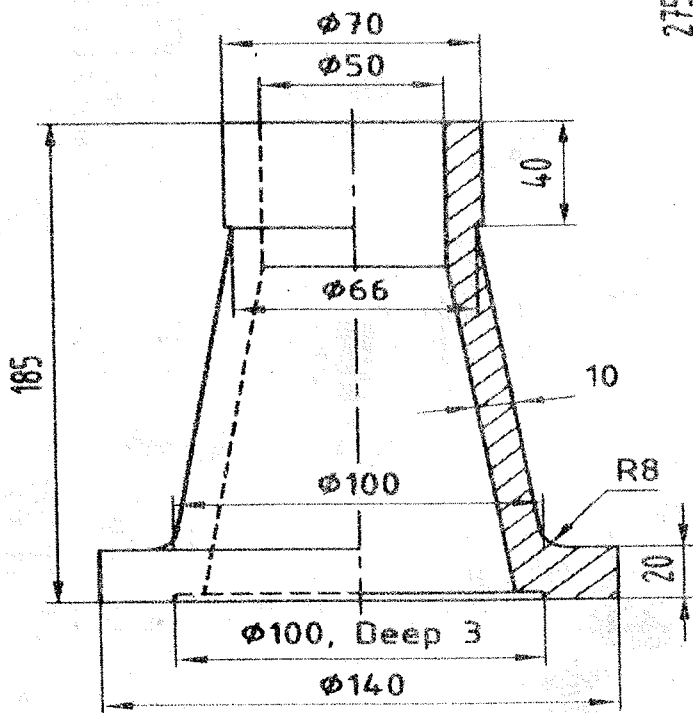
NUT (GUN METAL)



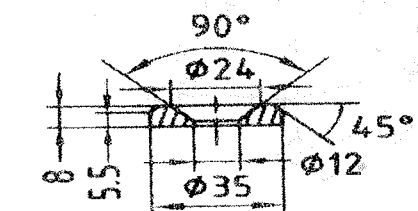
SQ38 x 7



TOMMY BAR (MILD STEEL)



BODY (CAST IRON)



SPECIAL WASHER (MILD STEEL)

Fig. 2