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**SUMMER – 13 EXAMINATION**

Subject Code: **12042**

**Model Answer**

**Important Instructions to examiners:**

- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling errors should not be given more Importance (Not applicable for subject English and Communication Skills).
- 4) While assessing figures, examiner may give credit for principal components indicated in the figure. The figures drawn by candidate and model answer may vary. The examiner may give credit for any equivalent figure drawn.
- 5) Credits may be given step wise for numerical problems. In some cases, the assumed constant values may vary and there may be some difference in the candidate's answers and model answer.
- 6) In case of some questions credit may be given by judgement on part of examiner of relevant answer based on candidate's understanding.
- 7) For programming language papers, credit may be given to any other program based on equivalent concept.

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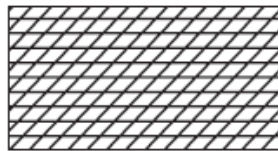
Model Answer

Que 1. A) Conventional symbols ( 2 marks each )

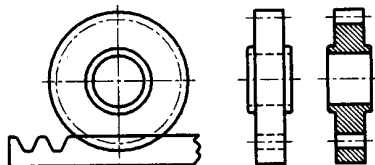
a) External screw thread



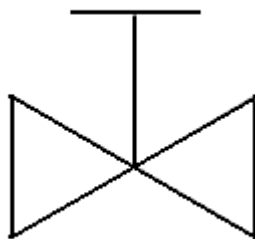
b) Asbestos



c) Rack & Pinion



d) Gate valve





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e) Splined shaft



f) Sq. section on shaft



Q1 B) Any three

( 4 Marks each )

a) Meanings of symbols

i)



The basic symbol used for indication of surface roughness consists of two legs of unequal length inclined at  $60^\circ$  to the line representing the surface under consideration.



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This current symbol is used whenever the removal of material is **not permitted**. The circle is added to the basic symbol.

	Roughness value in $\mu\text{m}$	Roughness Grade no.	Symbol
ii)	0.8	N6	
	0.4	N5	
	0.2	N4	

**b) Symbols for**

i) Cylindricity



ii) Angularity



**c) Two plates of 10 mm thick welded with V-butt joint Sketch & Symbol**



symbol



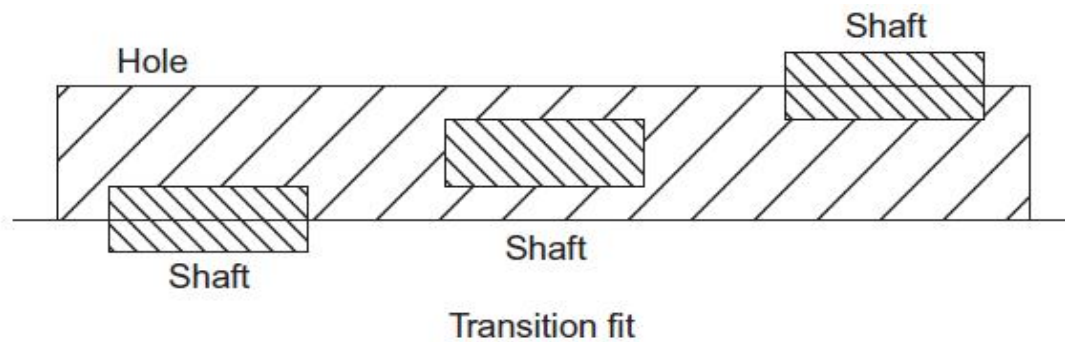
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**d) Transition fit :**

A transition fit is one having limits of size so prescribed that either a clearance or an interference may always result when mating parts are assembled. It means in a batch of jobs given for assembly some pairs may result in Clearance fit and remaining may have Interference fit. Following figure shows transition fit.





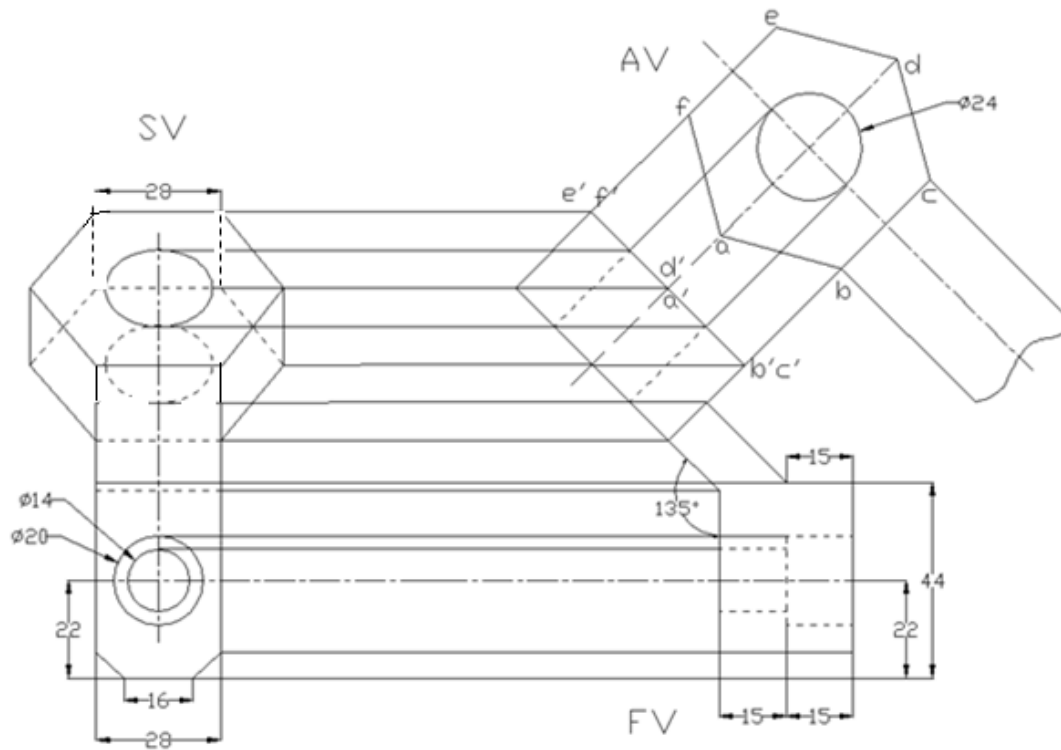
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**Model Answer**

**Q2 A) A problem on Auxiliary Views**

For FV : 4 Marks For AV : 2 Marks For SV : 6 Marks





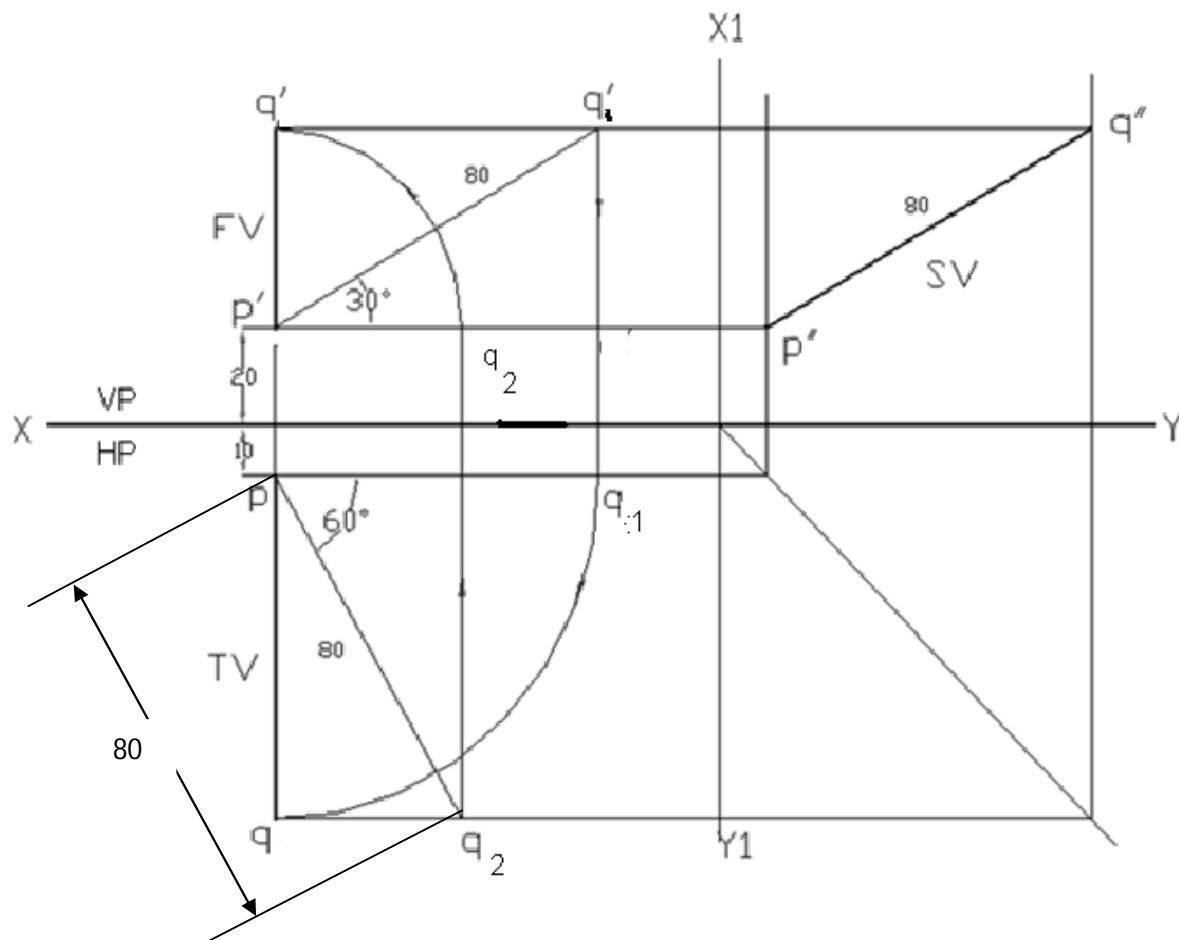
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Model Answer

**Q 2 B) A problem on line**

For FV : 3 Marks For TV : 3 Marks For SV : 2 Marks





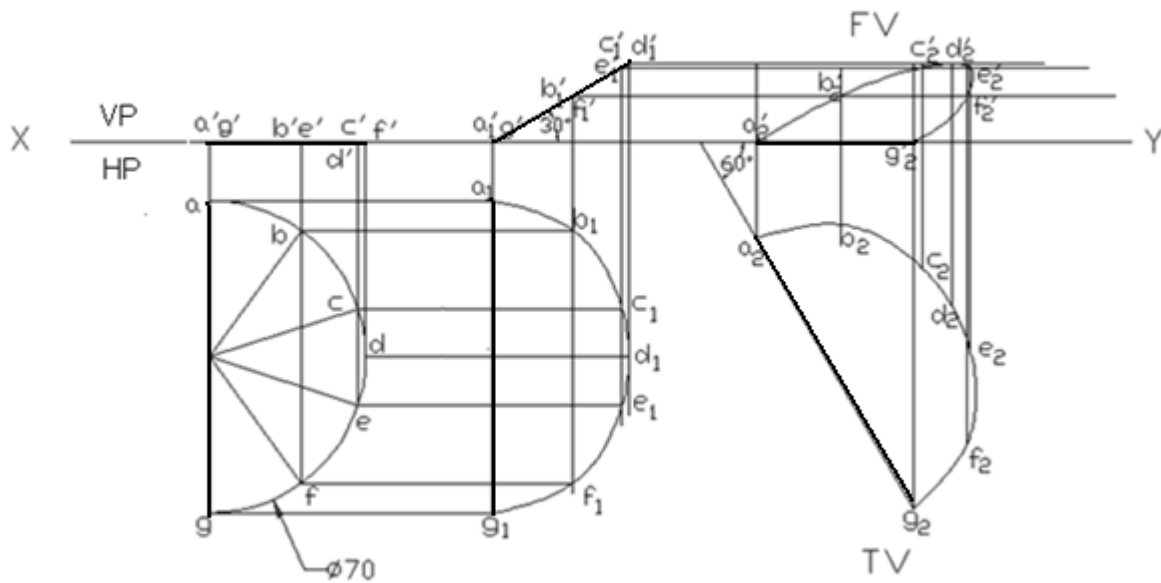
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Model Answer

Q 2 B) A Problem on Plane

For Stage I : 2 Marks For stage II : 3 Marks For final stage : 3 Marks





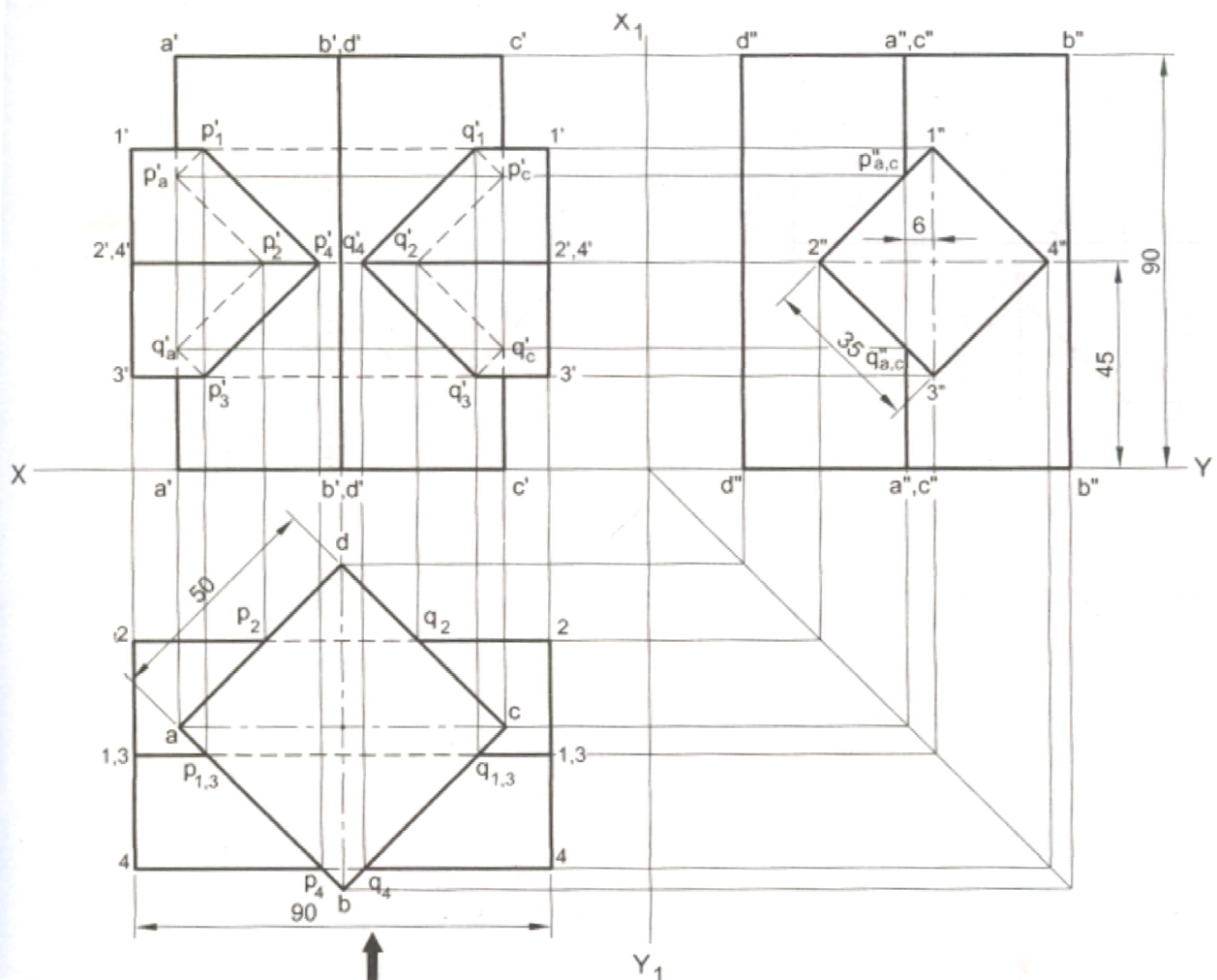


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Model Answer

**Q3 a) Problem on Prism Inserted into Vertical Prism**



F.V.- 04 MARKS

T.V.- 04 MARKS

S.V.-02 MARKS

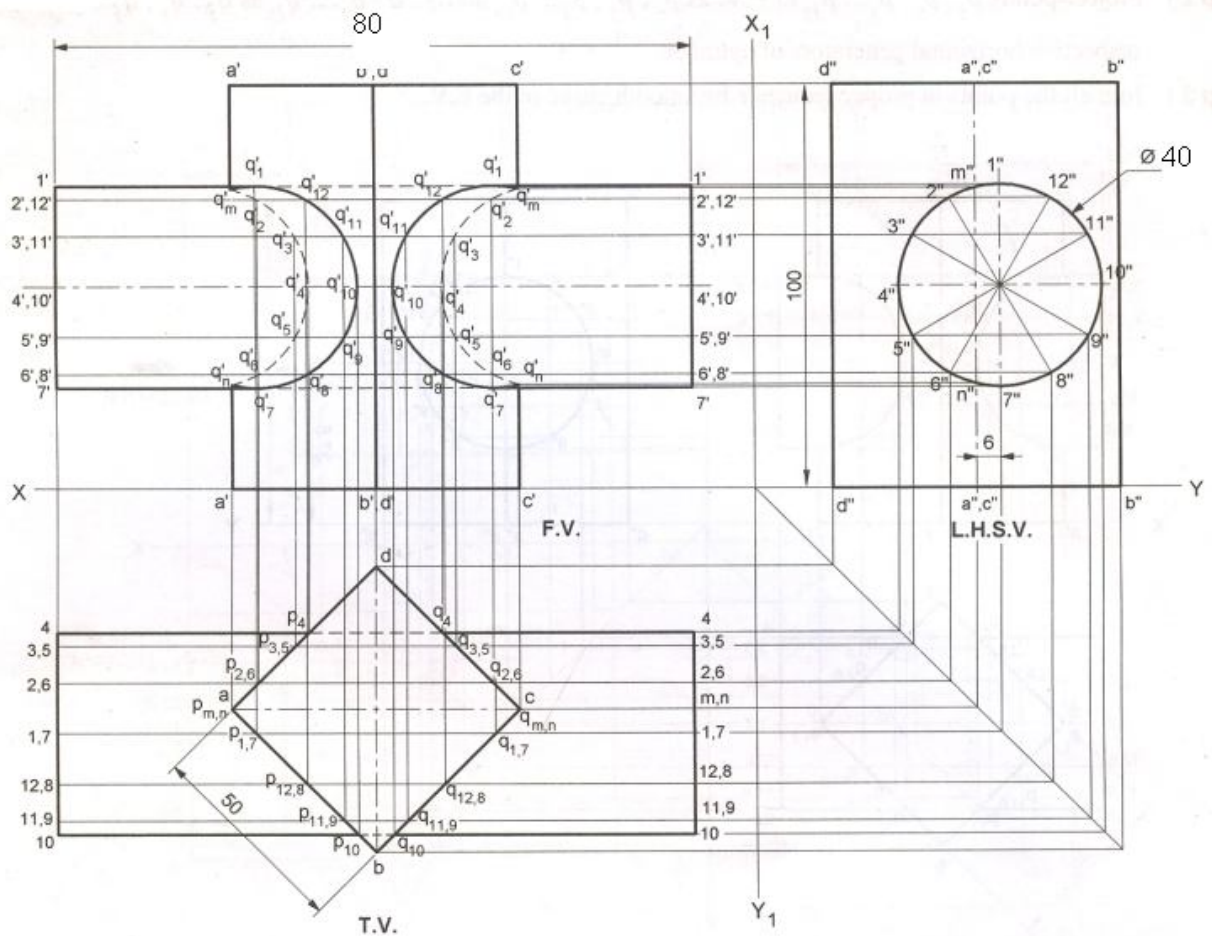


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Model Answer

**Q3 b) Prob- Cylinder Inserted in to Vertical prism**



F.V.- 04 MARKS

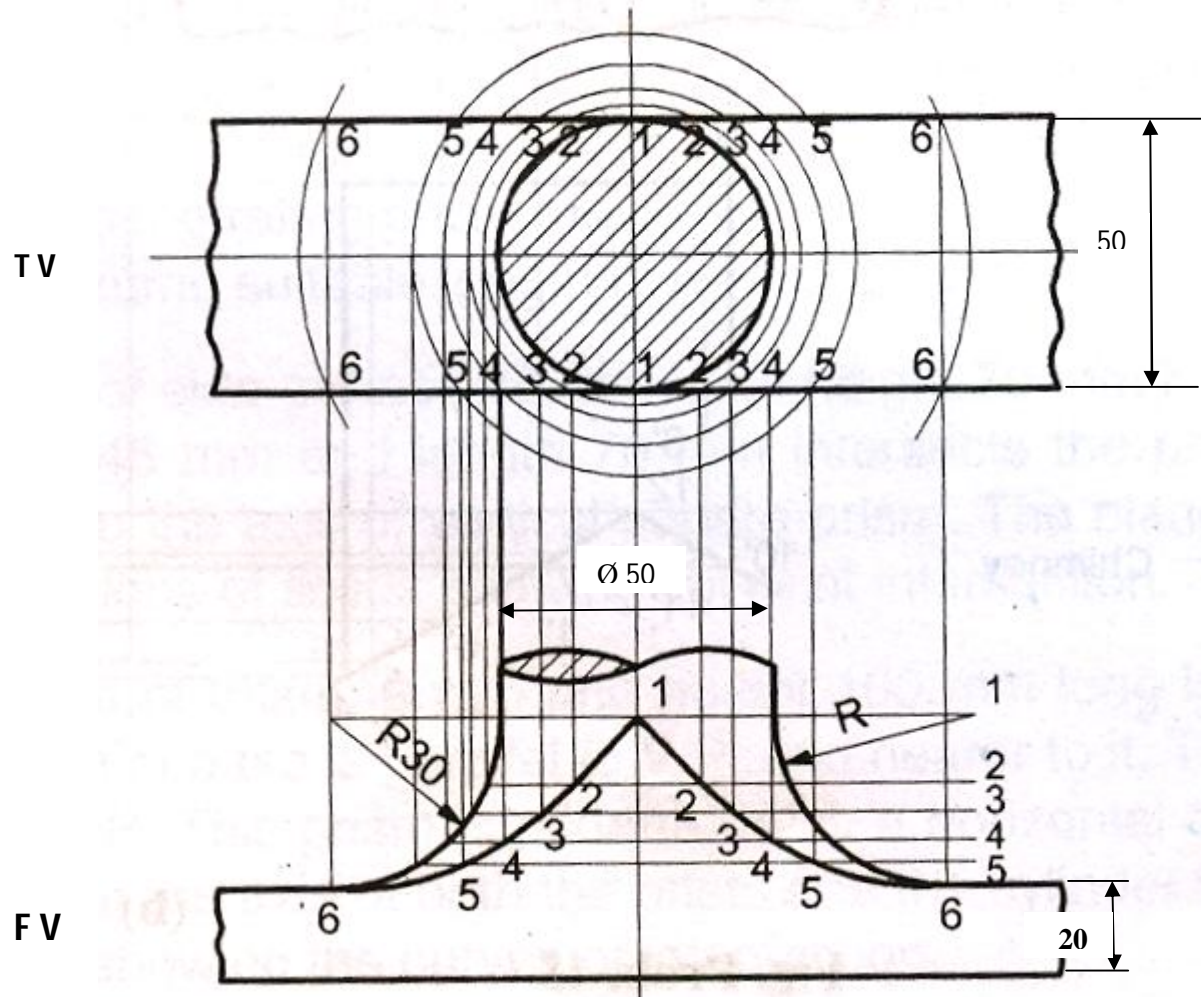
T.V.- 04 MARKS

S.V.-02 MARKS



### Model Answer

### Q3 C) Connecting Rod Problem



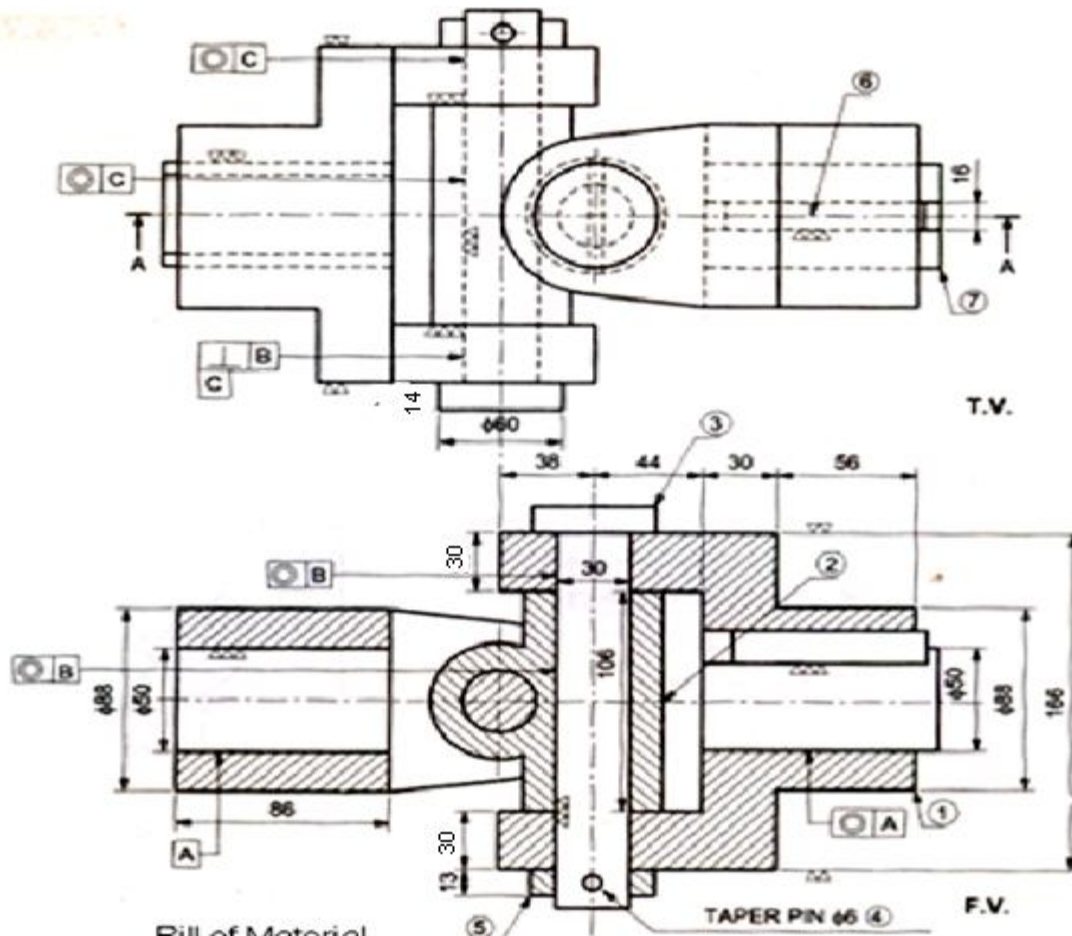
**T.V.- 05 MARKS**

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Q4 a) Universal Coupling



Bill of Material

PART NO	PART NAME	METAL	QTY.
1.	FORK	C.I.	2
2.	CENTER BLOCK	C.I.	1
3.	PIN	M.S.	2
4.	TAPER PIN	M.S.	2
5.	COLLAR	M.S.	2
6.	KEY	M.S.	2
7.	SHAFT	M.S.	2

SECTIONAL F.V.- 10 MARKS

T.V.- 08 MARKS

Bill of Material .-02 MARKS



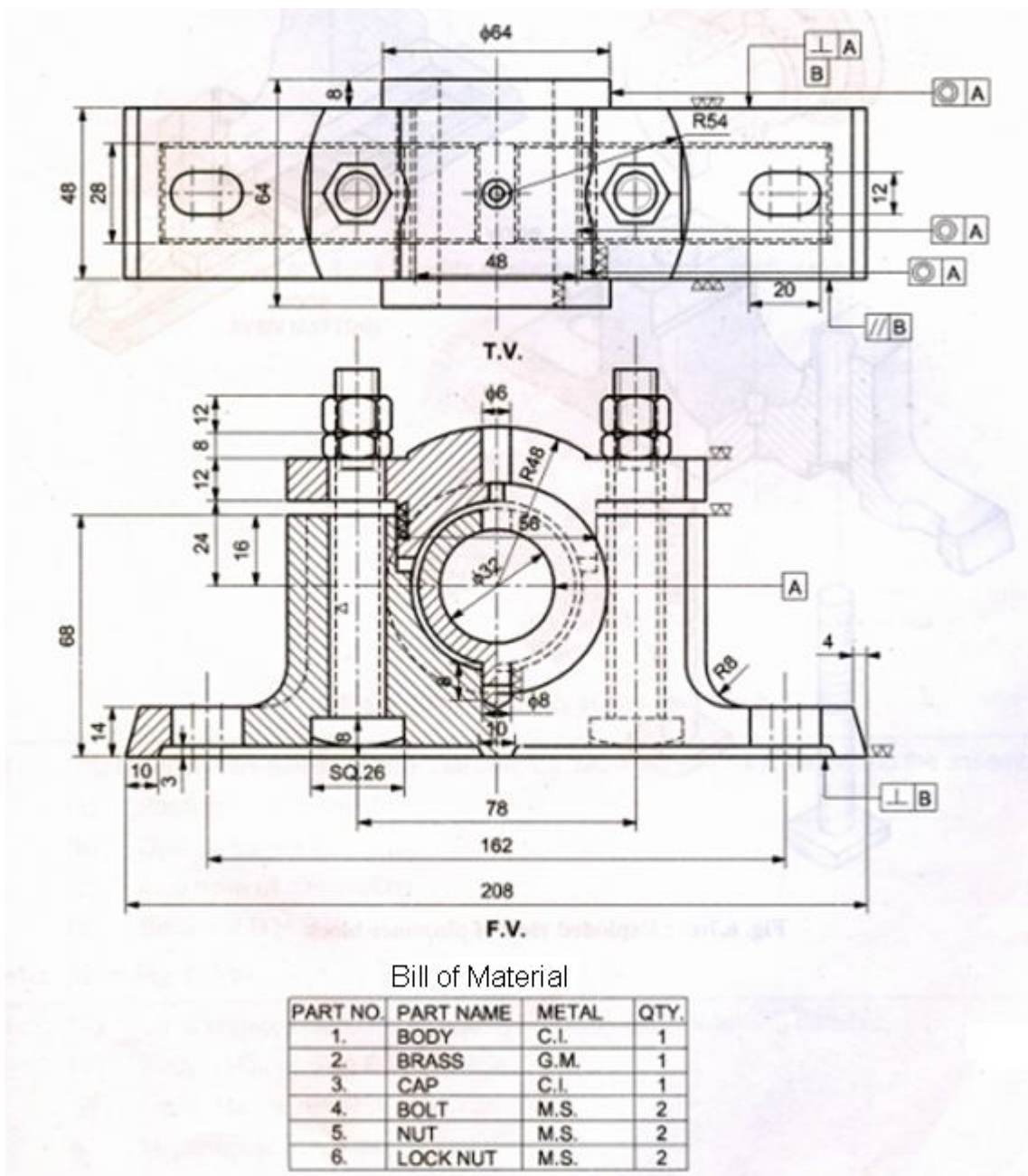


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Model Answer

Q4 b) ASSEMBLY OF PEDESTAL BEARING



SECTIONAL F.V.- 10 MARKS

T.V.- 08 MARKS

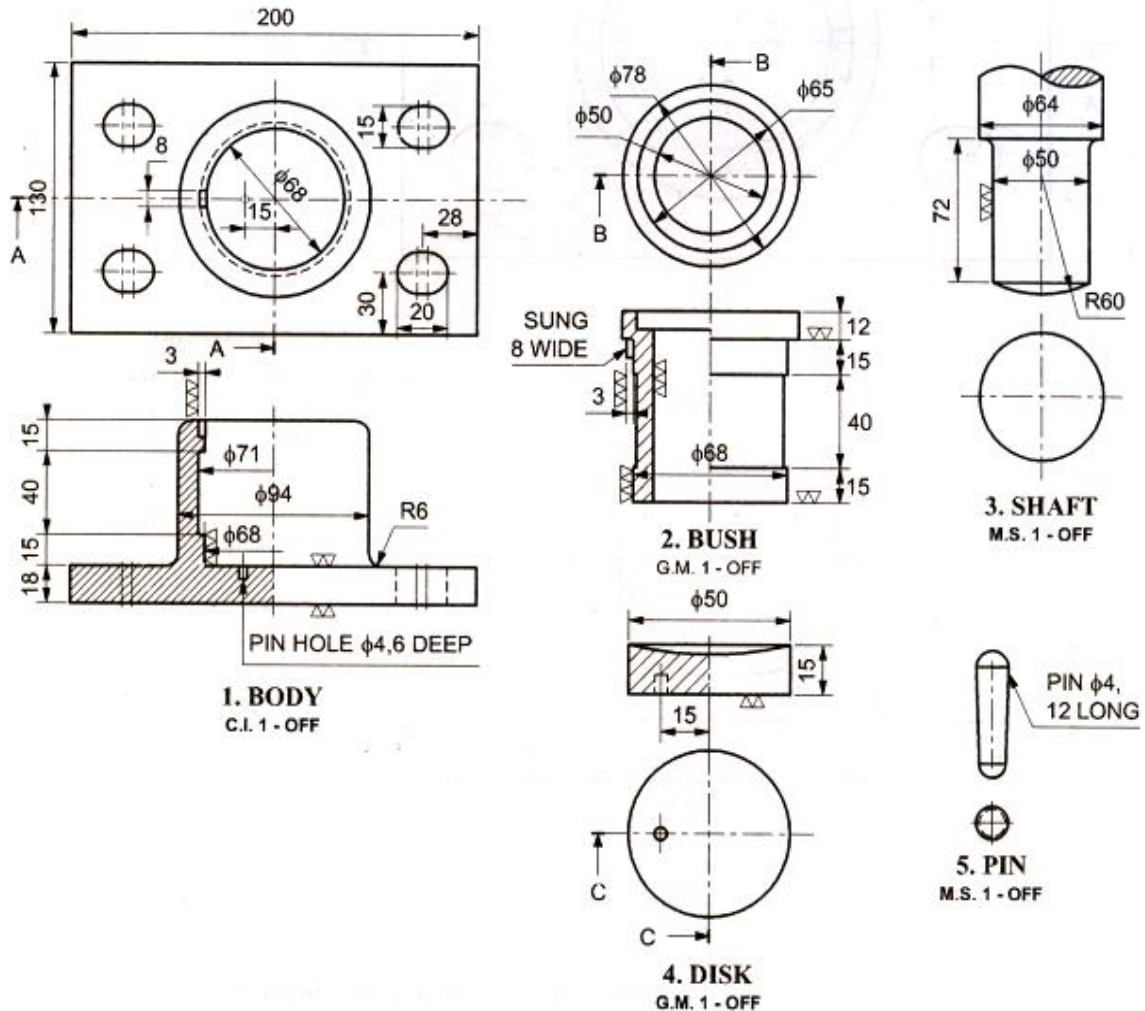
Bill of Material .-02 MARKS

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Model Answer

**Q5 a) DETAILS OF FOOT STEP BEARING**



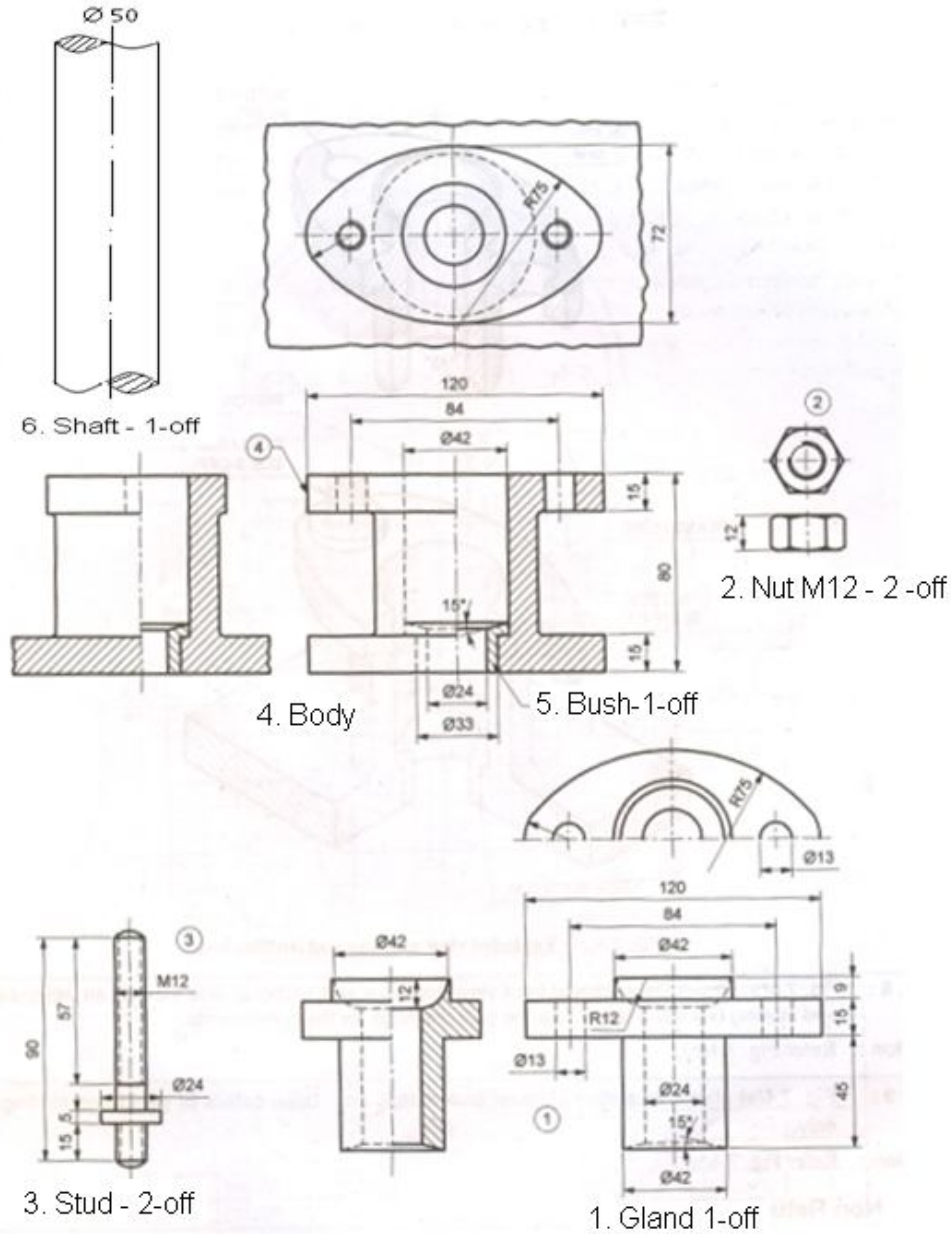
1. BODY -- 07 MARKS
2. BUSH—05 MARKS
3. DISC—02 MARKS
4. SHAFT—02 MARKS
5. PIN—02 MARKS
6. DIM.TOLE.&TOLE GRD—02 MARKS

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**Q5 b) DETAILS OF STUFFING BOX .**



1. BODY & BUSH -- 09 MARKS
2. GLAND—05 MARKS
3. STUD—02 MARKS
4. SHAFT—02MARKS      5. Nut —02 MARKS



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**Model Answer**