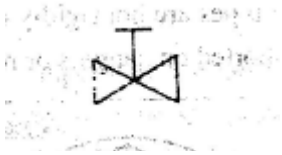
WINTER– 16 EXAMINATION

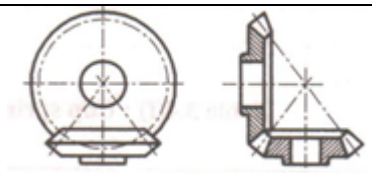
Model Answer **Subject Code:** 17305

Important Instructions to examiners:

Imp Note:- **"For Q.2 a), Q. 4 a), Q. 4 b), Q.5 a), Q. 5 b) if students assumed the dimensions and attempted to solve then give credits accordingly."**

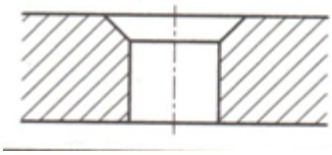
1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
3) The language errors such as grammatical, spelling 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.

Q. NO.	Sub Q.N	Answer	Marking Scheme
1	a	i) Cast iron  ii) Gate Valve  iii) External Thread  iv) Bevel Gear	02 marks each any six

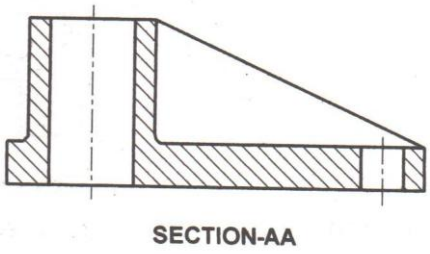


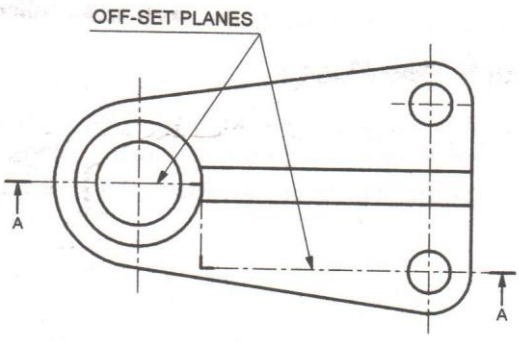
v) Short Break in pipe

vi) Counter sunk

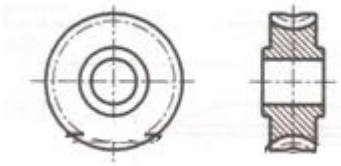


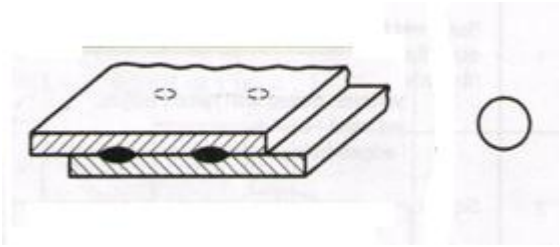
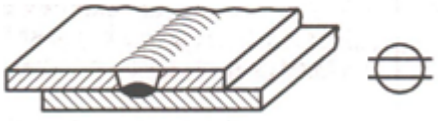
vii) Offset section

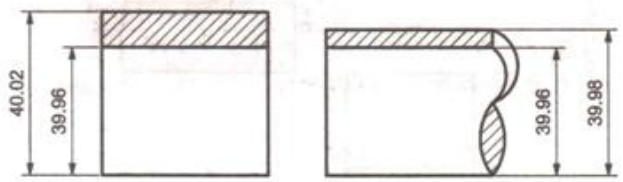
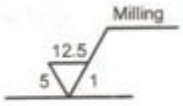
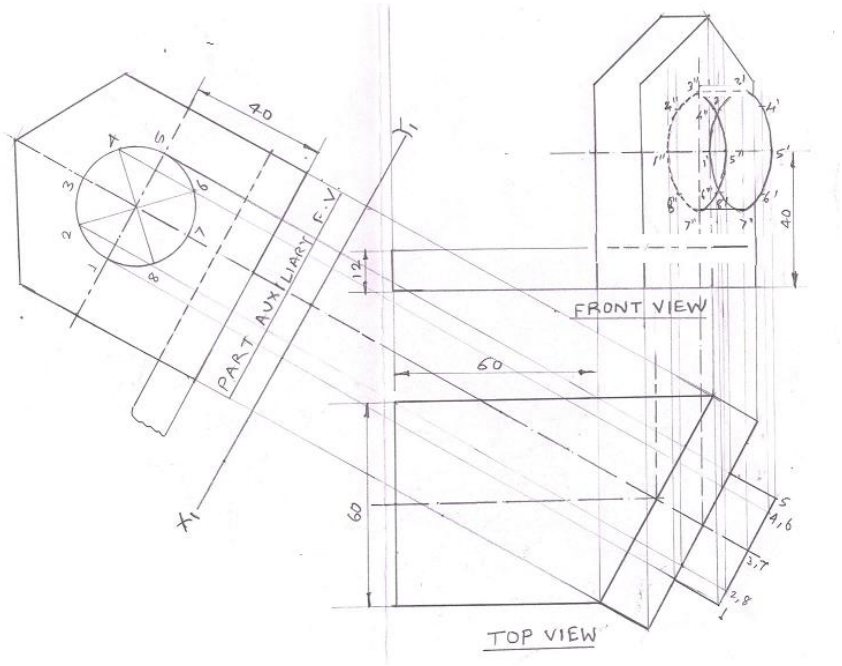


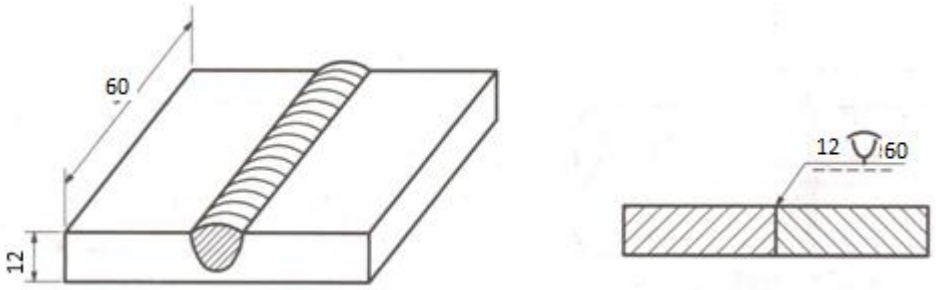
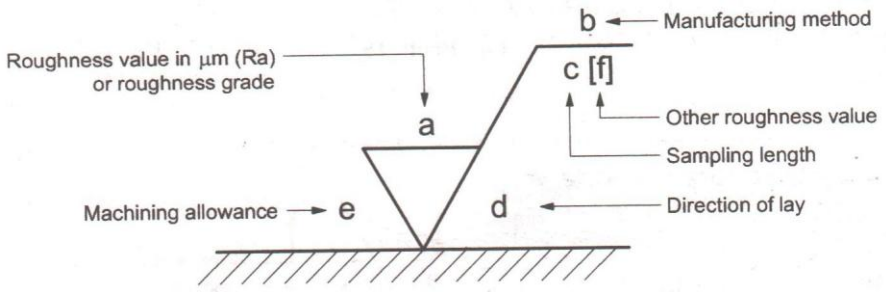


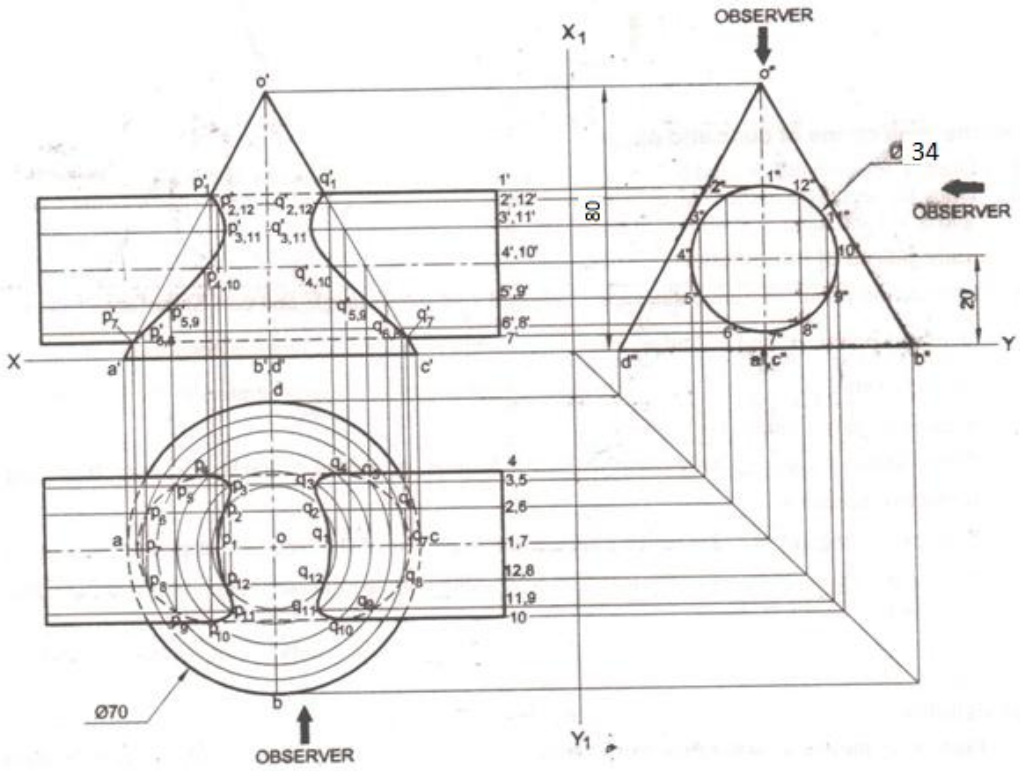
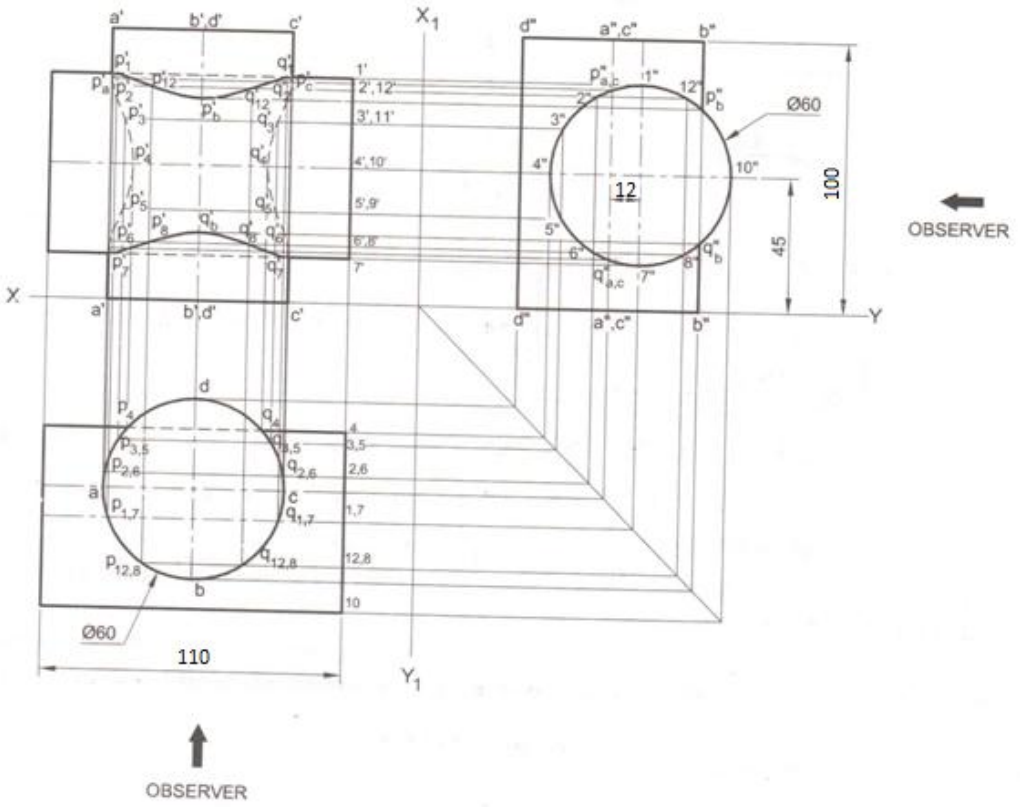
viii) Worm gear

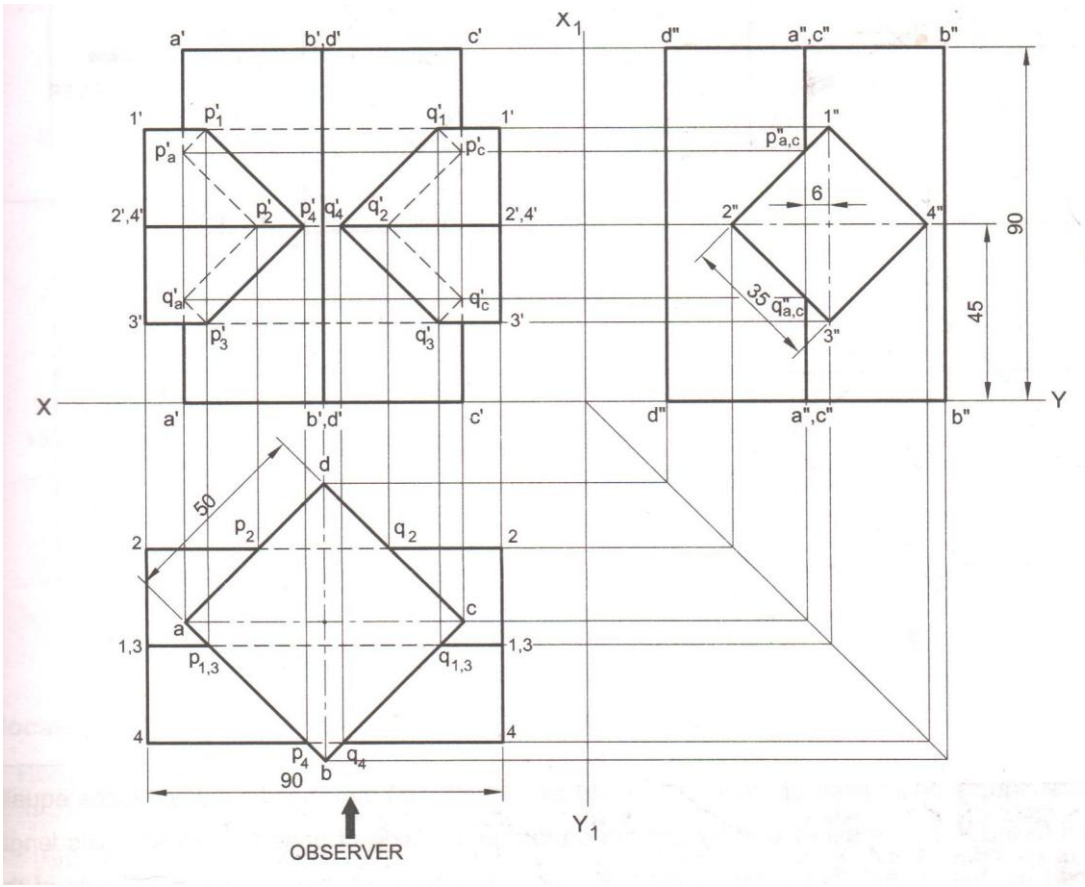


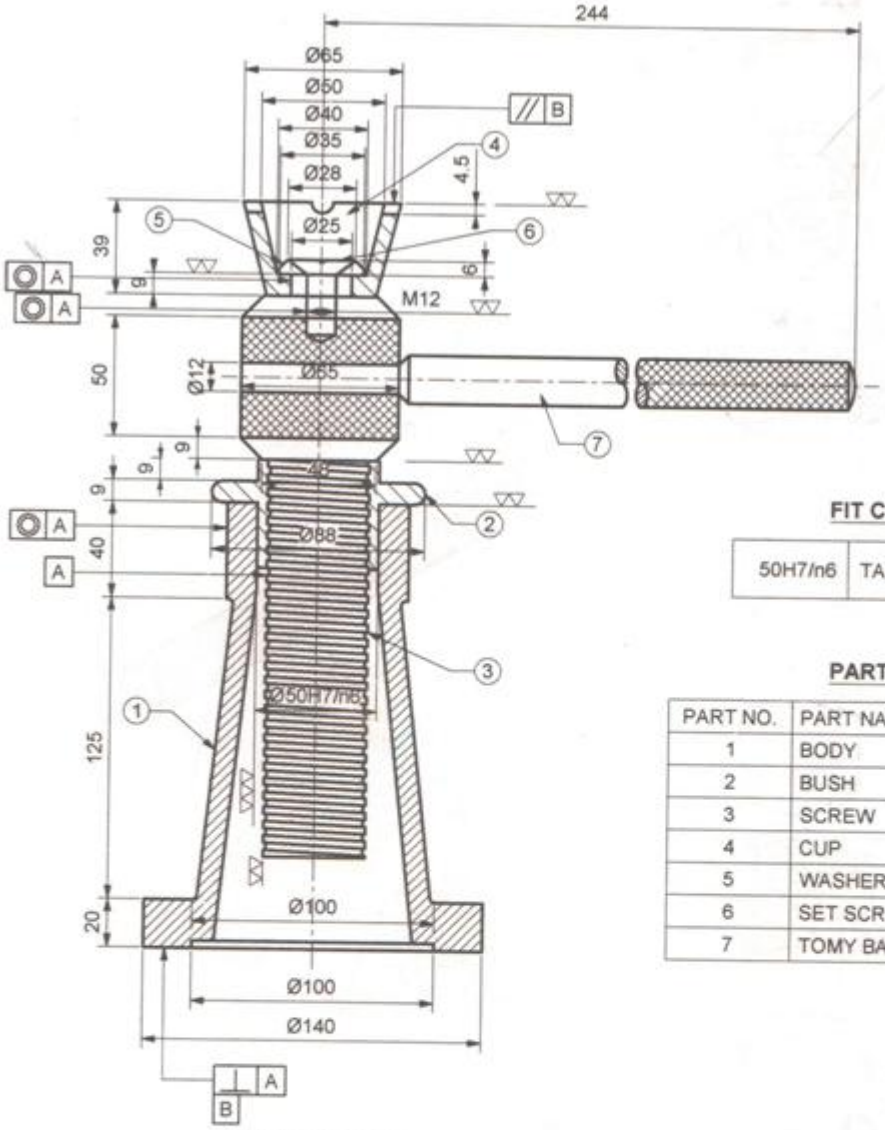
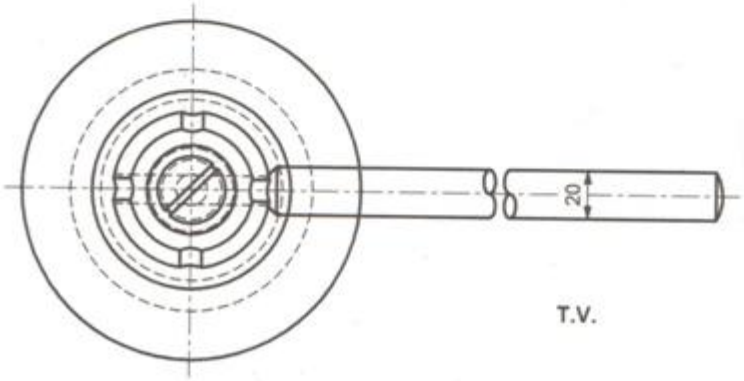
	b	Solve any two i) 1. Spot weld  2. Single U butt weld  3. Convex Double V butt weld  4. Seam weld 	01 mark each

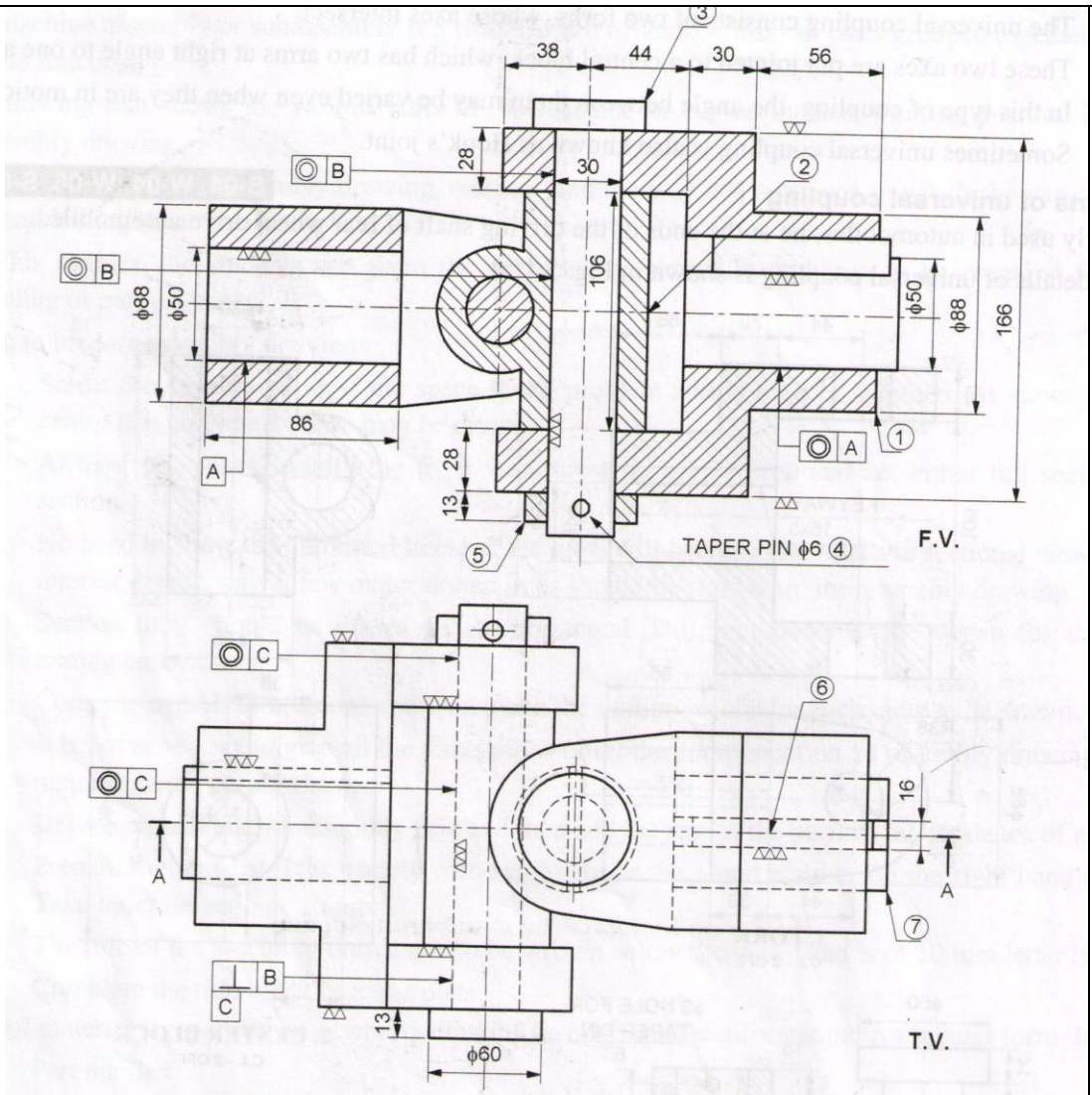
02	a)	ii)  Lower limit = 40 – 0.04 = 39.96 For hole : Upper limit = 40 + 0.02 = 40.02 Lower limit = 40 – 0.04 = 39.96 it is concluded that the given fit is transition fit. iii) 12.5 → Roughness value in µm (Ra) or roughness grade. 5 → Machining allowance 1 → Direction of lay Milling → Manufacturing method   	Correct answer 04 marks Each meaning 01 mark FV=06 TV = 03 PART AV= 03

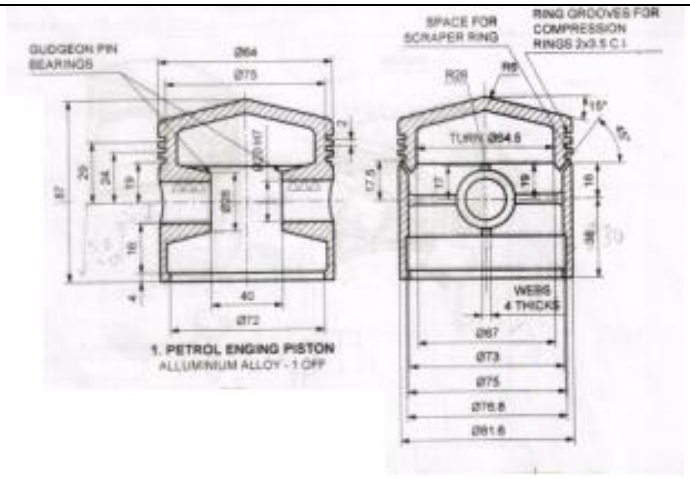
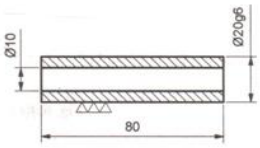
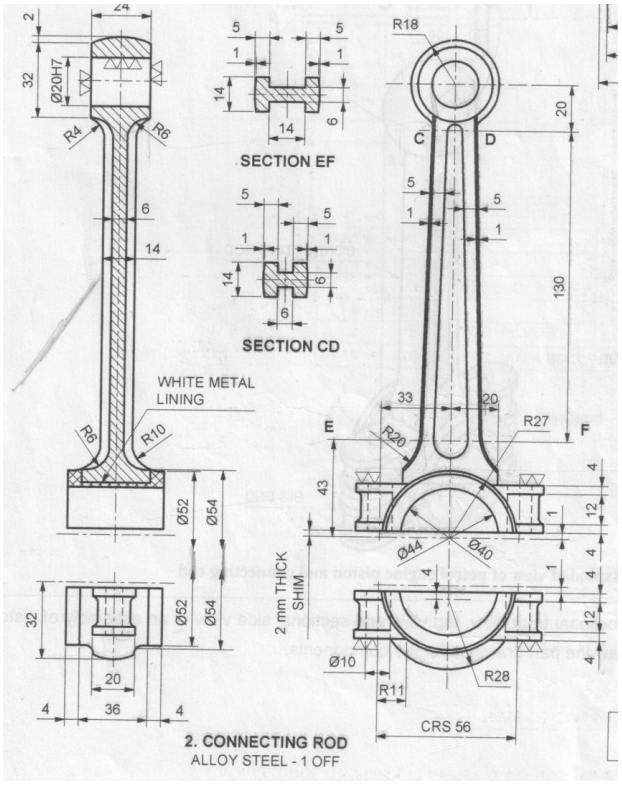
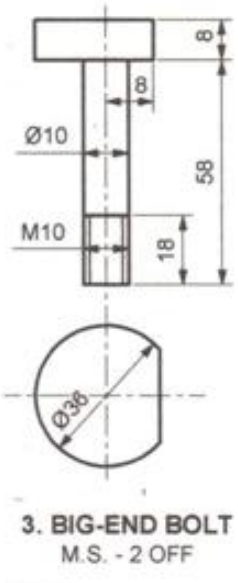
02	b	Solve any two i) 1.Cicularity ○ 2.Angularity ∠ 3. Straightness — 4. Profile of any surface ⌓	01 mark each
		ii) Rectangular plate 	Correct answer 04 marks
		iii) 	Correct answer 04 marks

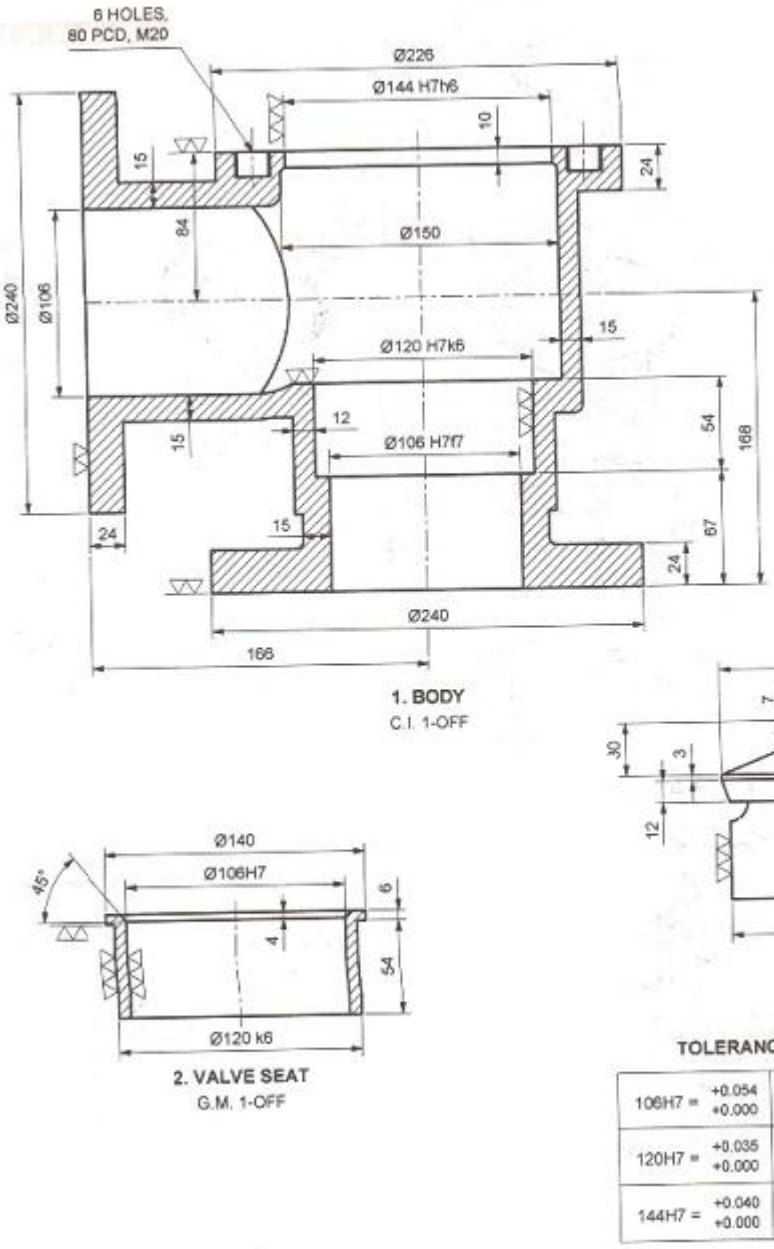
03	a		F.V 04 MARKS, T.V 04 MARKS, S.V 02 MARKS
03	b		F.V 04 MARKS, T.V 04 MARKS, S.V 02 MARKS

03	C		F.V 04 MARKS, T.V 04 MARKS, S.V 02 MARKS

04	a	 **FIT CHART** 50H7/n6 TANSINTION FIT **PART LIST** PART NO. PART NAME MATL. QTY 1 BODY C.I. 1 2 BUSH M.S. 1 3 SCREW M.S. 1 4 CUP C.I. 1 5 WASHER M.S. 1 6 SET SCREW M.S. 1 7 TOMY BAR M.S. 1 SECTIONAL F.V.  T.V.	Sectional F.V. 10 MARKS TV 06 MARKS BILL OF MATERIAL 02 MARK TYPE OF FIT 02 MARK

04	b	 PART LIST 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 TV 08 MARKS BILL OF MATERIAL 02 MARK

5	a	  4. Gudgeon pin  	Piston FV 03 MARKS TV 03 MARKS Connecting rod FV 05 MARKS SV 05 MARKS Big end Bolt FV 01 MARK TV 01 MARK Gudgeon Pin FV 01 MARK TV 01 MARK

05	b	 TOLERANCE CHART 106H7 = +0.054 +0.000 ; 106f7 = −0.036 −0.071 120H7 = +0.035 +0.000 ; 120k6 = +0.025 +0.003 144H7 = +0.040 +0.000 ; 144h6 = +0.000 −0.025	Body SFV & TV 10 marks Valve FV & TV 04 marks Valve seat FV & TV 04 marks Geometrical tolerance 02 marks