

[Time: 3 Hours]

[Marks: 80]

Please check whether you have got the right question paper.

- N.B:
1. Question 1 is compulsory.
 2. Attempt any 3 out of remaining 5.
 3. Assume suitable data wherever necessary.



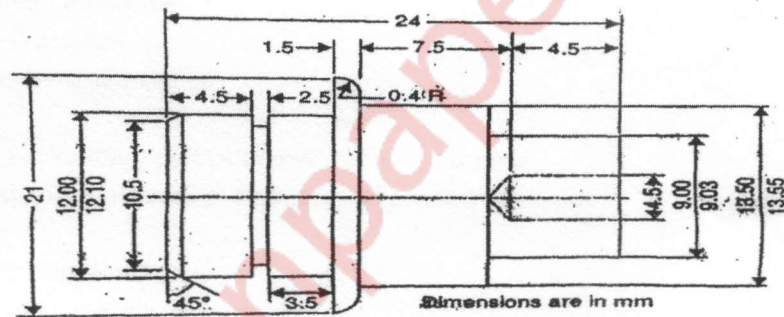
Q.1 Attempt any four:-

- a) What is meant by Balancing of tolerance chart? Explain with example.
- b) What are the different steps to draw different cams?
- c) Differentiate between Product Critical Area and Process Critical Area.
- d) Explain the Interchangeability concept with example.
- e) What is the purpose of process picture? Explain with example.

20

Q.2 For the Hub made of carbon steel

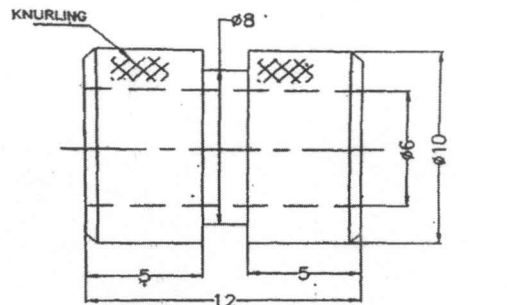
- a) Develop Basic component drawing with appropriate machining allowance. 02
- b) In standard format prepare detail process sheet including operation no, operation description, tools used, Gauges/Fixture etc. 12
- c) Draw tool layout for Turret Lathe. 06



HUB (Q. NO. 2)

Q.3 a) The component show in figure is to be produced on single spindle automate (Traub A-25) 12

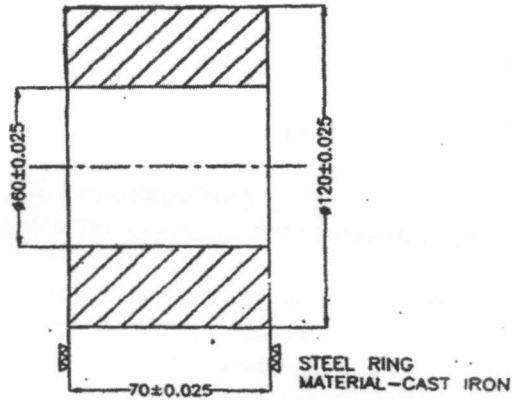
- i. Design and draw tool layout for the automat
- ii. Prepare tabulated result for cam drawing
- iii. Draw the set of cams needed for the job



BUSH
 MATERIAL-EN1A Ø10 BAR
 (Q. NO. 3 a)

b) Prepare tolerance chart for the component STEEL RING

08



(Q. NO. 3 b)

- Q.4 a) What is meant by centre-less grinding? Enlist different methods of it. Explain any two methods. Also describe Thread Rolling. 10
- b) Define the terms used in tolerance chart with example. 10
- Stock removal (SR)
 - Working Dimension
 - Total Tolerance
 - Intermediate dimension
- Q.5 a) Write steps for preliminary part print analysis with example. 10
- b) What are the functions of product engineer and process engineer? 10
- Q.6 Write short note (any four) 20
- Dimension control
 - Base line technique
 - Alternate location theory
 - In process and multiple gauging
 - Electro less Ni plating