

QP Code : 6260

(3 Hours)

[Total Marks : 80

- N.B.: (1) Question no. 1 is compulsory
(2) Attempt any 3 out of remaining 5
(3) Assume suitable data wherever necessary.

1. (Any 4) 20
- a) Define ER? Who can release it? Who is the recipient of it?
 - b) Differentiate between explicit Specification & Implicit Specification?
 - c) Convert the given dimensions into equal bi-lateral tolerances
 - i) $65.0^{+0.2}_{-0.4}$
 - ii) $20^{+0.1}_{-0.0}$
 - d) How are the critical areas on the work piece generally identified?
 - e) What are the causes of work piece variation?
2. a) The part 'setting ring' (Matl En 1A, Dia 20 mm) shown in Fig 1 is to be produced on TRAUB Automat ($V=70\text{m/min}$).
i) Draw the tool layouts 4
ii) Prepare the tabulated results 4
iii) Calculate output per hour and piece rate 3
iv) Draw the set of cams 5
b) Why the process engineer is called hub of an organization? 4
3. a) What is computer assisted variant approach of process planning? 4
b) Explain Balancing in case of tolerance chart. 4
c) Prepare the tolerance chart for the given component shown in given Fig 1. 12
4. a) Discuss part print analysis for the component 'Power Shaft' shown in Fig 2. 15
b) Differentiate between process critical area and product critical area 5
5. a) What is geometric control? Why is it necessary? What are its advantages? 5
b) Sketch the forces required to obtain both linear and rotational equilibrium. 5
c) Any 2 10
 - i) Critical operation
 - ii) Transfer line machining
 - iii) ISO insert & Tool Holder Specification.
6. The component 'Power Shaft' shown in figure 2 is to be manufactured at an annual rate of 1,00,000/- Qty year. (Refer fig2)
a) Develop the basic component drawing with appropriate machining allowance 4

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- b) and achievable tolerance in basic process you have selected.
 In standard format prepare detailed process sheet. The process sheet should indicate operation number, machine, operation description, machining parameters

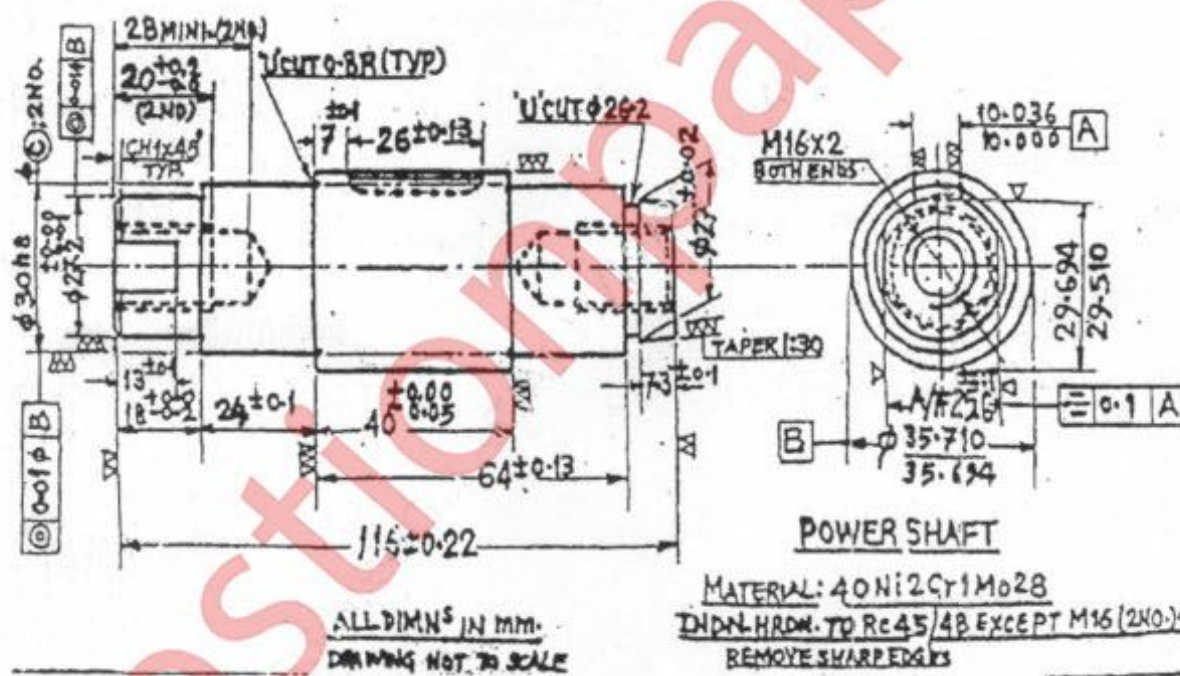
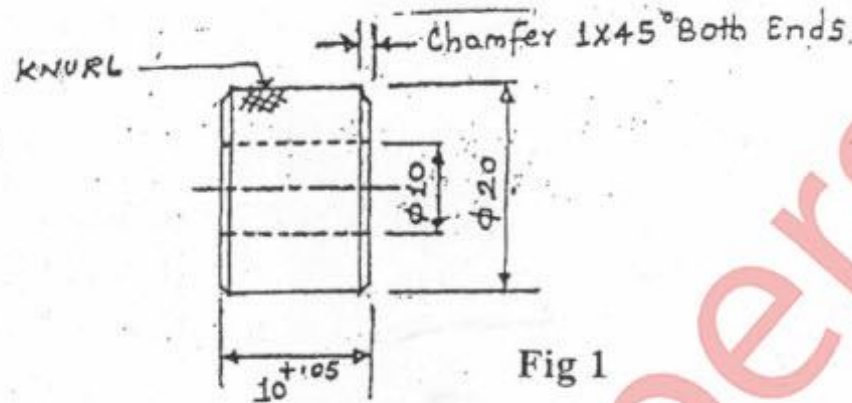


Fig 2