Roll No .....

AU/IP/IEM/ME/PR - 302

B.E. III Semester

Examination, June 2015

Production Process

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Explain the principle of sine bar.
   b) What are slip gauges?
   c) Define the term tolerance, limits and fit, with reference to the dimensional measurement.
   d) Determine the tolerances on the hole and the shaft for a precision running fit designated by 50H7/g6. 50mm lies between the range 30-50mm. where
   $i = 0.46 (D)^{1/3} + 0.001 (D)$ (microns).
   Fundamental deviation for H hole = 0, Fundamental deviation of g shaft = $-2.5 (D)^{0.34}$ Here take IT 7 = 16i and IT 6 = 10i. State the actual the maximum and minimum sizes of both hole and shaft and maximum and minimum clearances.

   OR

   What is cold rolling discuss it in brief?

2. a) What is the significance of providing rake angle on tool?
   b) Discuss the term machinability in brief.

   c) What are chip breakers?
   d) What is the difference between the orthogonal and oblique cutting?

   OR

   A lathe while running consumes 500W and 2500W when cutting a steel specimen at 30m/min. Determine the cutting force and torque at the spindle at 120 rpm. Also determine the specific power consumption if the depth of cut is 4mm and feed is 0.25mm/rev.

3. a) What is pattern?
   b) What is core?
   c) Enlist various pattern allowances?
   d) Discuss in brief the centrifugal casting.

   OR

   Explain in brief the lost wax casting also give its advantages and disadvantages.

4. a) What is upsetting?
   b) What do you understand by the term piercing?
   c) What is Drop forging?
   d) What do you understand by the shear on the dies? What is its effect on size and shape of the cut blank?

   OR

   Give a brief classification of presses and discuss it in brief.

5. a) Discuss the need of edge preparation in welding?
   b) What do you understand by the flux used in welding?
   c) What is filler material? Explain its importance in welding, giving its composition.
   d) Explain the TIG and MIG system of arc welding. Give application of each.

   OR

   Explain the Principle underlying the Resistance welding process.

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