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**AU/IP/IEM/ME/PR - 302****B.E. III Semester**

Examination, December 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 question 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) What do you understand by term radian?  
 b) What is meant by the term 'magnification' as applied to comparators?  
 c) Define the following related to the geometry of rolling  
   i) Absolute spread  
   ii) Angle of bite **rgpvonline.com**  
 d) Explain hot and cold rolling process with their advantages and disadvantages.
- OR**
- Distinguish between 'line standard' and 'end standard'.
2. a) What do you understand from the term 'tool life'?  
 b) What are the main cutting tool material? Give only name.  
 c) What do you understand by 'orthogonal' and 'oblique' cutting? How do they differ from each other?  
 d) What are common mechanism causing wear on cutting tools? Explain in brief.

**OR**

A carbide lipped tool of designation 0-10-5.5-8-90-1mm (ORS) is used to turn a steel workpiece of 50mm diameter with a cutting speed of 240m/min and feed of 0.25 mm/rev. The data obtained shows the cutting force 180kg, feedforce 100kg and chip thickness 0.32mm. Calculate shear angle, shear force.

3. a) Define moulding and casting.  
 b) What do you understand by the coreprint and coresifting?  
 c) What are the advantages and disadvantages of wood pattern?  
 d) Write short note on core binders and core additives.

**OR**

Explain in brief the continuous casting process with neat sketch. Discuss advantages and limitations.

4. a) Define the term draft in forging.  
 b) Why are forgings sometimes heat treated?  
 c) Give in brief the requirement of stock material in deep drawing.  
 d) List the different bending operations. Describe the mechanism of bending related to press working.

**OR**

What are the advantages and limitations of press forging over drop forging?

5. a) State the function of flux used in welding.  
 b) How the mechanics of brazing differ from braze welding?  
 c) Describe projection resistance welding.  
 d) Sketch and describe the principle of submerged arc welding. **rgpvonline.com**

**OR**

Write the advantages, limitations and application of spinning process.

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