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**RN-8129**

**B. E. - II (Sem. III) (Mechanical) Examination**

**May / June - 2010**

**Manufacturing Process - I**

Time : Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दर्शाविए निशानीवाणी विगतो उत्तरवडी पर अवश्य कर्जवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<b>B. E. - 2 (Sem. 3) (Mechanical)</b>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<b>Manufacturing Process - 1</b>	<input type="text"/>
Subject Code No. : <input type="text"/> 8 <input type="text"/> 1 <input type="text"/> 2 <input type="text"/> 9	<input type="text"/>
Section No. (1, 2,.....) : <input type="text"/> 1&2	
	Student's Signature

- (2) Attempt all the questions.
- (3) Use separate answer books for each section.
- (4) Draw neat sketch whenever necessary.
- (5) Answer suitable data if necessary.

**SECTION - I**

- 1 Answer any ten of the following : 20
- (i) With the help of neat sketch. Show various elements of 'twist drill'.
  - (ii) Which are the desirable properties of lathe bed material.
  - (iii) What is a 'chuck'? Why is it used? Which are the various types of chuck?
  - (iv) What is a tool signature? State its importance.
  - (v) Explain vertical boring m/c.
  - (vi) What is tool life? Name any **three** tool materials and cutting fluids.
  - (vii) Which are the methods of tapes turning? Explain any **one** in brief.
  - (viii) Write a brief note on "Chip Breaker".
  - (ix) Classification of boring m/c.
  - (x) What is a BUE? When is it obtained during machining?
  - (xi) Explain the size of the lathe machine.

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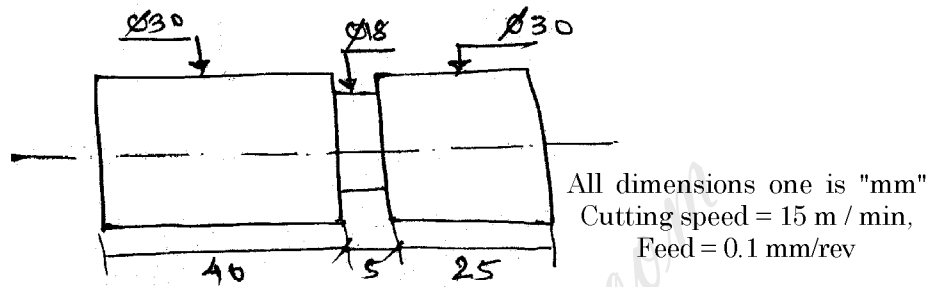
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- (xii) Explain following operations :
- Shoulder turning
  - Spot facing
  - Reaming
  - Counter boring.

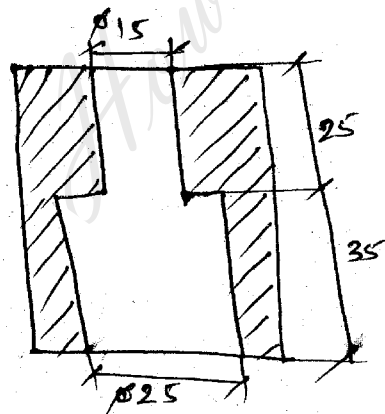
2 Answer any **three** of the following :

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- (a) Calculate the machining time for given job.



- (b) Derive an expression for 'set over'.  
(c) Determine the change gears to be set between stud and lead screw of lathe without feed box to cut the following thread pitches
- 1.25 mm pitch 3 start.
  - 2.5 mm pitch single start.
- The lathe has a 3 mm pitch lead screw and is supplied with a change gear set from 20 to 100 teeth in steps of 4 teeth.
- (d) Calculate machining time for given job.



3 Answer any **three** of the following :

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- Alignment test of boring m/c.
- Factors affecting tool life
- Explain radial drilling machine
- Cutting fluids and its importance
- Apron mechanism.

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[Contd...

## SECTION - II

- 4 (a) Answer the following : 10
- (i) With the help of neat sketch show the various elements of plain milling cutter.
  - (ii) What is meant by glazing and loading of grinding machine?
  - (iii) Differentiate pull and push broaching.
  - (iv) State the machining applications of slotting machine.
  - (v) State application of sawing machine.
- (b) Answer the following :
- (i) Differentiate between face milling and end milling operations. 5
  - (ii) Write down the steps for machining vertical surface in shaping machine. 5
- 5 Answer the following :
- (a) Explain with neat sketch crank and slotted link mechanism of shaping machine. 8
  - (b) Explain Internal Grinding machine. 7
- OR**
- (a) Give the advantages and disadvantages of broaching machine. 8
  - (b) Differentiate between up milling and down milling with a neat sketch. 7
- 6 Explain any **three** of the following : 15
- (i) Write a short note on grinding wheel marking system.
  - (ii) Write a short note on slotter machine.
  - (iii) Explain the component of planner machine with neat sketch.
  - (iv) Enlist various types of milling operation. Explain plain milling.
  - (v) Explain circular sawing machine.
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