



SE-6867

B. E. - III (Sem. V) (Mech.) Examination
April/May - 2011
Mechanical Technology - II

Time : Hours]

[Total Marks : 100

Instruction :

(1)

नीचे दृशावेव निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. - 3 (SEM. 5)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="MECHANICAL TECHNOLOGY - 2"/>	<input type="text"/>
Subject Code No. : <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="6"/> <input type="text" value="7"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="1&2"/>	<input type="text"/>
	Student's Signature

- (2) Attempt all questions.
(3) Explain with a neat sketch / figure wherever necessary.
(4) Figure to the right indicate full marks.

SECTION - I

- 1 (a) Answer the following : 10
- (i) Name any four tool material.
 - (ii) Name any four cutting fluids.
 - (iii) Give specification for a lathe.
 - (iv) What is gaug drilling ?
 - (v) What is a follower rest ?
- (b) Explain cutting speed, feed and depth of cut for lathe 5
using neat sketch.
- (c) Discuss tool life. 5

OR

- (c) Explain Radial Drilling machine. 5

- 2 (a) Explain hydraulic quick return mechanism in a shaper. 8
(b) Derive the equation for a machining time calculation of shaper. 7

OR

- (b) Explain twist drill geometry. 7
- 3 Answer any **three** : 15
- (a) Difference between a three jaw and four jaw chuck.
(b) Difference between a capstan and a turret.
(c) Differentiate between a drilling reaming and boring.
(d) Explain different operations performed with a lathe.
(e) Explain any two taper turning methods.

SECTION - II

- 4 Answer any **ten** of the following : 20
- (a) Give the classification of milling machine.
(b) Give list of gear cutting method.
(c) What is dressing and truing ?
(d) What is bond and grade with respect to grinding wheel ?
(e) What is feed per tooth with respect to milling operation ?
(f) Explain internal centerless grinding machine.
(g) Give the classification of broaching operation.
(h) Explain gang milling.
(i) What is thread grinder ?
(j) Write a brief note on the abrasives used in making of grinding wheel.

- 5 Answer any **three** of following : 18
- (a) Derive an expression for calculating the machining time for face milling operation.

- (b) Index 28, 69, 82 using suitable indexing method.
- (c) The following data refer to the cylindrical grinding of the circular job. Diameter of the job is to be reduces by 0.4 mm. data associated with the process are as under.

Work speed=500rpm

Width of the work piece=20mm

Length of travel=300mm

Longitudinal feed-0.005 mm/rev

Depth of cut-0.02mm

Wheel diameter=250mm

Assume no. of grits/mm=5

Take specific energy of M.S. as 1.4 J/mm^2 .

Determine the total grinding force.

- (d) Calculate the machining particulars to cut the spur gear of 60 teeth with 4mm module. Assume cutting speed as 35 m/min and feed as 0.075 mm/tooth, no. of teeth on cutter are 12.

6 Answer any **two** of following : **12**

- (a) Differentiate between up-milling and down milling with reference to end milling operation with neat sketch.
- (b) Name various type of clamp. Explain any one of them.
- (c) 3-2-1 principle of location.
