

College of Engineering, Pune – 5.

(An Autonomous Institute of Government of Maharashtra)

End Semester Examination

(PE-201) – Production Processes

Programme : S. Y. B. Tech.(Production-Sandwich)

Year : 2011 –12

Duration : 180 min.

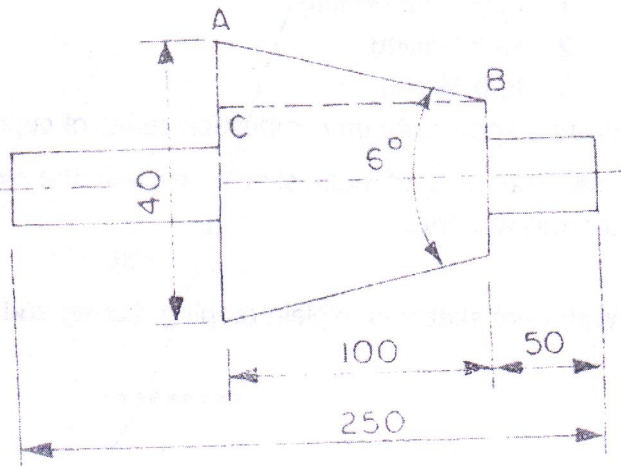
Semester : I (Autumn)

Max. Marks : 50

Instructions:-

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat sketches wherever required.
4. Assume necessary data if required.
5. Use of non programmable calculator is allowed.

- Q.1 a. State the limitations of following taper turning methods 3
1. Using form tool
 2. Set over method
 3. Combining longitudinal and cross feeds
- b. Differentiate between rightward welding and leftward welding? 4
- c. Calculate the tailstock set-over to turn full taper angle of 6 degrees on a portion of workpiece of length 100 mm as shown in the sketch below. Total length of job is 250 mm. Maximum diameter at one end of taper is 40 mm. 3



- Q.2 a. State the applications of following (sketches are not required): 5
1. Universal dividing head in milling machine
 2. Trip dogs in planer machine
 3. Regulating wheel in grinding machine
 4. Feed disc in shaper machine
 5. Apron mechanism in lathe machine

- b.** Why tool is set such that its cutting point is in horizontal plane with respect to workpiece? 5
- OR
- b.** With a neat labelled sketch, explain centrifugal casting. 5
- Q.3 **a.** Sketch and explain turret indexing mechanism. 5
- b.** Briefly explain glazing and loading? What are dressing and truing operations? 5
- OR
- b.** Index 73 divisions by differential indexing using brown and sharp index plates. Indexing head are furnished with change gears 24,24,28,32,40,44,48,56,72,86,100. calculate indexing movement and number of idle gear required. 5
- Q.4 **a.** What are moulding sand properties? Discuss the effects of moisture and clay contents on green compressive strength of the sand? 5
- b.** Explain Vitriified bond and shellac bond with its manufacturing method, properties and applications. 5
- OR
- b.** Explain following types of Milling 5
1. Peripheral Milling
 2. Face Milling
 3. End Milling
- Q.5 **a.** Write a short note on combustion zones of cupola furnace. 5
- b.** With the help of neat sketch, explain the working and applications of thermit welding. 5
- OR
- b.** With neat sketches explain tapping, boring and reaming operations. 5
