S.E. (SEM - III) (CBSGS) (MECHANICAL ENGG.) 30th May 2016
PRODUCTION PROCESS-I 3.00 pm to 6.00 pm

Mechanical/Automobile

QP Code : 30690

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **three** questions out of the remaining **five** questions.
(3) **Figures** to **right** indicate **full** marks.

1. Write short notes on (**any four**) **20**
   (a) Characteristics of moulding sand
   (b) Thread Rolling
   (c) Blow Moulding
   (d) Carbon Arc welding
   (e) Centritugal casting

2. (a) Calculate the size of cylindrical riser with d/h ratio as 1, required to feed a steel slab casting of 30 × 30 × 5cm³. Assume the volume shrinkage on soliditication as 3% for steel and the volume of riser is three times that of the volume of shrinkage. **10**
   (b) Discuss types of flames in gas welding. **5**
   (c) Discuss Advantages, Disadvantages and Applications of Adhesive Bonding. **5**

3. (a) Discuss in detai Defects in Rolled parts. **10**
   (b) Write advantages, applications and limitation of resistance welding. **5**
   (c) Write any five welding defects with their causes. **5**

4. (a) What is powder metallurgy ? What are the various processes of making powders. Discuss any two methods of making powder with neat sketches. **10**
   (b) Explain Magnetic partical inspection (Magnaflux Test) of NDT, with advantages, applications and limitations. **10**

5. (a) Compare Thermoplastics and Thermosetting plastics. **5**
   (b) Discuss sintering process of powder Metallurgy. **5**
   (c) Compare press forging and drop forging. **5**
   (c) Explain compression moulding with neat sketch. **5**

6. (a) Explain working principle of Ram type injection moulding. **10**
   (b) Discuss advantages, limitations and application of NDT method. **5**
   (c) Compare HOT working and Cold working **5**