

SE- sem-III - old - Mech.

PP-I

9/12/15

QP Code : **1180**

( 3 Hours)

[ Total Marks : 100

- N.B.:** (1) Question No.1 is compulsory  
(2) Attempt any four questions out of remaining six questions  
(3) Figures to **right** indicate **full** marks  
(4) Assume suitable data if necessary.

1. Write short note on following- (Any four) 20  
(i) Properties of moulding sand  
(ii) Types of flames in gas welding  
(iii) Centreless grinding  
(iv) Radiography method of NDT  
(v) Up milling and down milling
2. (a) Draw neat sketch of radial drilling machine. Explain the various important parts with their functions. 10  
(b) Sketch the following milling operations  
(1) form milling  
(2) face milling  
(3) spur gear milling  
(4) T-slot milling
3. (a) Discuss electroslag welding with neat sketch. State its applications and limitations. 10  
(b) Explain any ten casting defects with their remedies. 10
4. (a) State various methods of taper turning operation on lathe machine. Discuss in detail any one method with neat sketch. 10  
(b) Explain the following terms w.r.t. grinding wheel. 10  
(i) Grit (ii) Grade  
(iii) Structure (iv) Bond
5. (a) Explain with a neat sketch working of friction welding process. 5  
(b) Explain the importance of risers in casting process. 5  
(c) Compare EDM and ECM with reference to 10  
(1) Surface finish  
(2) Power consumption  
(3) Material removal rate  
(4) Power supply

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**QP-Con. 10505-15.**

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6. (a) Explain the process of powder metallurgy with advantages and limitations. 10  
(b) Write composition, properties and applications of 10  
(i) White cast Iron  
(ii) Nodular cast Iron  
(iii) Stainless steel
7. (a) List various NDT methods. Explain the ultrasonic inspection method with neat sketch and discuss its advantages over other techniques. 10  
(b) Compare constructional features of Shaper and planner. 5  
(c) Explain Gear hobbing. 5
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