



**KC-6267**

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

**November / December – 2012**

**Mechanical Technology - I**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दशावलि निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
B. E. - 2 (SEM. 3) (MECH.)

Name of the Subject :  
MECHANICAL TECHNOLOGY - 1

Subject Code No. : 6 2 6 7 Section No. (1, 2,.....): NIL

Seat No. :  
[ ] [ ] [ ] [ ] [ ] [ ]

Student's Signature

- (2) Attempt all questions.  
(3) Figures to the right indicate full marks.  
(4) Assume suitable data if necessary.

1 Answer the following :

20

- (1) Define drag and kerf in oxy-fuel gas cutting.  
(2) What is an arc blow ?  
(3) What is the typical electrode material used in TIG welding process ?  
(4) List various operation generally performed in a sheet metal shop.  
(5) Define following terms :  
(a) Flux  
(b) Penetration.  
(6) List the advantage of forging of metals.  
(7) Define following terms :  
(a) Extrusion ratio  
(b) Swagging.

- (8) State the function of shielding gases in gas shielded arc welding.
- (9) Define following terms :
  - (a) Angle of bite
  - (b) Rolling.
- (10) Why is blank holding necessary in a sheet metal drawing operation ?

**2 Explain any three :** **15**

- (1) Explain the process of metal transfer in MIG welding process.
- (2) Explain resistance seam welding process with neat sketch.
- (3) What are the specific advantage and application of thermite welding process ?
- (4) Briefly explain the oxy acetylene welding equipment setup.

**3 Explain any three :** **15**

- (1) Explain the principle of extrusion process with neat sketch.
- (2) Explain the planetary rolling mill arrangement with neat sketch.
- (3) Explain the various stages of drop forging process.
- (4) Explain the following die shearing operation :
  - (a) Trimming
  - (b) Shaving

**4 Attempt any four :** **20**

- (a) Explain different types of casting defects.
- (b) Explain Cupola furnace. (Only sketch).
- (c) Explain permeability test.
- (d) Explain different types of cores.
- (e) Explain functions of a gating system.

- 5 Attempt any three : 18
- (a) Explain investment casting process.
  - (b) Explain sand-casting process.
  - (c) Explain Chene's method of riser design.
  - (d) Explain pattern allowances.
- 6 Attempt any **three** : 12
- (a) Explain any two types of pattern with a neat sketch.
  - (b) Explain advantages and uses of casting.
  - (c) Sketch the cross section of a sand mould which is ready for pouring and label the important parts.
  - (d) Explain Modulus method of riser design.
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