Code.No: RR312101 | RR | SET-1

**III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010**
**AIRCRAFT PRODUCTION TECHNOLOGY**
**(AERONAUTICAL ENGINEERING)**

**Time: 3hours** **Max.Marks:80**

**Answer any FIVE questions**
**All questions carry equal marks**
**- - -**

1.a) Briefly explain the properties of molding sand.
b) Explain the functions of a gating system. [8+8]

2.a) Explain the principle of operation of resistance welding.
b) Explain various resistance welding processes. [4+12]

3. In an orthogonal machining operation, derive the equations for shear force and normal shear force in terms of cutting forms and shear plane angle. Also derive the condition for minimum cutting force. [16]

4.a) What are the differences between shaping and planning operations?
b) Describe centreless grinding operation with the help of neat sketches. [8+8]

5. Explain the differences between open-loop control system and closed loop control system with the help of neat sketches. [16]

6.a) Explain the mechanics of material removal in EDM process with neat sketch.
b) Explain the working of relaxation circuit in EDM process. [6+10]

7.a) How does extrusion differ from rolling & forging? Explain.
b) Explain the differences between direct and indirect extrusions. [6+10]

8.a) Explain Faraday's Laws of electrolysis.
b) What are the desirable properties for a good electrolyte? Explain the functions. [6+10]

**--ooOoo--**

Code.No: RR312101 | RR | SET-2

**III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010**
**AIRCRAFT PRODUCTION TECHNOLOGY**
**(AERONAUTICAL ENGINEERING)**

**Time: 3hours** **Max.Marks:80**

**Answer any FIVE questions**
**All questions carry equal marks**
**- - -**

1. In an orthogonal machining operation, derive the equations for shear force and normal shear force in terms of cutting forms and shear plane angle. Also derive the condition for minimum cutting force. [16]

2.a) What are the differences between shaping and planning operations?
b) Describe centreless grinding operation with the help of neat sketches. [8+8]

3. Explain the differences between open-loop control system and closed loop control system with the help of neat sketches. [16]

4.a) Explain the mechanics of material removal in EDM process with neat sketch.
b) Explain the working of relaxation circuit in EDM process. [6+10]

5.a) How does extrusion differ from rolling & forging? Explain.
b) Explain the differences between direct and indirect extrusions. [6+10]

6.a) Explain Faraday's Laws of electrolysis.
b) What are the desirable properties for a good electrolyte? Explain the functions. [6+10]

7.a) Briefly explain the properties of molding sand.
b) Explain the functions of a gating system. [8+8]

8.a) Explain the principle of operation of resistance welding.
b) Explain various resistance welding processes. [4+12]

**--ooOoo--**

Code.No: RR312101 | RR | SET-3

**III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010**
**AIRCRAFT PRODUCTION TECHNOLOGY**
**(AERONAUTICAL ENGINEERING)**

**Time: 3hours** **Max.Marks:80**

**Answer any FIVE questions**
**All questions carry equal marks**
**- - -**

1. Explain the differences between open-loop control system and closed loop control system with the help of neat sketches. [16]

2.a) Explain the mechanics of material removal in EDM process with neat sketch.
b) Explain the working of relaxation circuit in EDM process. [6+10]

3.a) How does extrusion differ from rolling & forging? Explain.
b) Explain the differences between direct and indirect extrusions. [6+10]

4.a) Explain Faraday's Laws of electrolysis.
b) What are the desirable properties for a good electrolyte? Explain the functions. [6+10]

5.a) Briefly explain the properties of molding sand.
b) Explain the functions of a gating system. [8+8]

6.a) Explain the principle of operation of resistance welding.
b) Explain various resistance welding processes. [4+12]

7. In an orthogonal machining operation, derive the equations for shear force and normal shear force in terms of cutting forms and shear plane angle. Also derive the condition for minimum cutting force. [16]

8.a) What are the differences between shaping and planning operations?
b) Describe centreless grinding operation with the help of neat sketches. [8+8]

**--ooOoo--**

Code.No: RR312101 | RR | SET-4

**III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010**
**AIRCRAFT PRODUCTION TECHNOLOGY**
**(AERONAUTICAL ENGINEERING)**

**Time: 3hours** **Max.Marks:80**

**Answer any FIVE questions**
**All questions carry equal marks**
**- - -**

1.a) How does extrusion differ from rolling & forging? Explain.
b) Explain the differences between direct and indirect extrusions. [6+10]

2.a) Explain Faraday's Laws of electrolysis.
b) What are the desirable properties for a good electrolyte? Explain the functions. [6+10]

3.a) Briefly explain the properties of molding sand.
b) Explain the functions of a gating system. [8+8]

4.a) Explain the principle of operation of resistance welding.
b) Explain various resistance welding processes. [4+12]

5. In an orthogonal machining operation, derive the equations for shear force and normal shear force in terms of cutting forms and shear plane angle. Also derive the condition for minimum cutting force. [16]

6.a) What are the differences between shaping and planning operations?
b) Describe centreless grinding operation with the help of neat sketches. [8+8]

7. Explain the differences between open-loop control system and closed loop control system with the help of neat sketches. [16]

8.a) Explain the mechanics of material removal in EDM process with neat sketch.
b) Explain the working of relaxation circuit in EDM process. [6+10]

**--ooOoo--**