

III B.Tech I Semester Regular Examinations, November 2005
AIRCRAFT PRODUCTION TECHNOLOGY
(Aeronautical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain “Dendritic” Solidification in sand castings.
(b) Describe the need of investment casting process in Aircraft industry. Explain the investment casting process [16]
2. (a) What do you understand by gas welding? Describe in brief the equipment required for oxy-acetylene welding?
(b) Differentiate between plastic welding and fusion welding giving proper examples. For each of the process. [16]
3. Classify milling machines and list them accordingly? How milling differs from turning in lathes? [16]
4. (a) Enumerate different operations that can be done on a drilling machine
(b) List various work holding and tool holding devices used in drilling machines [16]
5. (a) Briefly explain the basic components of CNC systems? Bring out the general relationship among these basic components with a neat figure?
(b) Explain the applications and economics of usage of CNC machines?
(c) Bring out the advantages and disadvantages of CNC? [16]
6. (a) Discuss abrasive jet machining (AJM) with a neat sketch.
(b) What are the advantages, and disadvantages of AJM.
(c) What are the applications and limitations of AJM Process. [16]
7. (a) Write a short note on the accuracy of LBM process?
(b) What are the advantages and disadvantages of LBM process? Give its applications? [16]
8. Give the classification of forming process? What are the general characteristics of forming? Explain them. [16]

III B.Tech I Semester Regular Examinations, November 2005
AIRCRAFT PRODUCTION TECHNOLOGY
(Aeronautical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. How are the patterns classified? Describe them with neat sketches and state the uses of each of them? [16]
2. (a) Write short notes on the following?
 - i. LEFTWARD WELDING
 - ii. RIGHTWARD WELDING
 - iii. VERTICAL WELDING(b) Describe and explain
 - i. BRAZING
 - ii. SOLDERING, stating the principles difference in them? Also state their specific applications? [16]
3. Explain different types of chip forming and chipless forming processes Used in manufacturing [16]
4. Write short notes on following
 - (a) Broaching method to generate internal teeth?
 - (b) Slotting operation
 - (c) Gear cutting [16]
5. (a) What are the advantages and disadvantages of CNC machine over conventional machines?
(b) Explain the distinct features of CNC machines? [16]
6. (a) Discuss abrasive jet machining (AJM) with a neat sketch.
(b) What are the advantages, and disadvantages of AJM.
(c) What are the applications and limitations of AJM Process. [16]
7. (a) Explain with neat diagram the EDM process
(b) Discuss advantages and disadvantages and limitations of the process [16]
8. (a) Explain the features of different types of rolling mills?
(b) How are seamless tubes produced? [16]

III B.Tech I Semester Regular Examinations, November 2005
AIRCRAFT PRODUCTION TECHNOLOGY
(Aeronautical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Write short notes on following
 - (a) Chvorinov's Rule for solidification
 - (b) Caine's Method for solidification
 - (c) Factors affecting the solidification [16]
2. (a) What do you understand by gas welding? Describe in brief the equipment required for oxy-acetylene welding?
(b) Differentiate between plastic welding and fusion welding giving proper examples. For each of the process. [16]
3. (a) Name and describe the principal parts of a milling machine with a neat sketch?
(b) List out various milling machine operations, describe one in brief? [16]
4. Write short notes on following
 - (a) Broaching method to generate internal teeth?
 - (b) Slotting operation
 - (c) Gear cutting [16]
5. (a) What are the advantages and disadvantages of CNC machine over conventional machines?
(b) Explain the distinct features of CNC machines? [16]
6. (a) Differentiate between manual production and Automation?
(b) Explain Ultrasonic-machining processes. Specify some of its process characteristics? [16]
7. (a) Compare the process characteristics of ECM and EDM
(b) Give the applications of EDM? [16]
8. (a) Define powder metallurgy? List out various methods employed for production of metal powders?
(b) Distinguish between shooting and atomizing in case of powder metallurgy? [16]

III B.Tech I Semester Regular Examinations, November 2005
AIRCRAFT PRODUCTION TECHNOLOGY
(Aeronautical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Write short notes on the following?
 - (a) Shell mould casting
 - (b) Co_2 process [16]
2. (a) What is weld ability? Explain in detail on ELECTRO-SLAG WELDING processes.
(b) Explain briefly about the different ways of metal transfer in arc welding? [16]
3. (a) Compare between plain and universal milling machines?
(b) Define speed, feed and depth of cut in milling? [16]
4. (a) Enumerate different operations that can be done on a drilling machine
(b) List various work holding and tool holding devices used in drilling machines [16]
5. (a) Briefly explain the basic components of CNC systems? Bring out the general relationship among these basic components with a neat figure?
(b) Explain the applications and economics of usage of CNC machines?
(c) Bring out the advantages and disadvantages of CNC? [16]
6. (a) Explain the effect of various cutting parameters in USM with appropriate figures?
(b) What are the recent developments in USM?
(c) Write short notes on the following:
 - i. Application of USM?
 - ii. Limitations of USM process. [16]
7. (a) Explain the process of electron beam machining with neat sketch.
(b) Write the advantages, disadvantages and applications of the process. [16]
8. Give the classification of forming process? What are the general characteristics of forming? Explain them. [16]
