

Code No: 07A42103

R07**Set No. 2**

**II B.Tech II Semester Examinations, APRIL 2011
AEROSPACE MATERIALS AND COMPOSITES
Aeronautical Engineering**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) What are various processes used in the production of synthetic fiber?
(b) What are the defects which generally occur in the manufacture of composite parts? Mention their remedies? [8+8]
2. (a) What are the various heat - treatment methods used to improve the properties of aluminum alloys?
(b) How the fibers and matrix materials are selected in the manufacture of FRP materials? [8+8]
3. Write short notes on the following:
 - (a) evaluation of the mechanical properties of fibers.
 - (b) Testing of fibers.
 - (c) High performance Organic fibers. [6+4+6]
4. What are the commonly used fibers and resins in thermoset composite Industry? Explain with their properties. [16]
5. (a) Differentiate between thermal expansion moulding and bag molding process mentioning their advantages and applications?
(b) What is the advantage of textile performing in composite processing? [8+8]
6. How can be the composite materials classified according to the matrix and reinforcements? Critically discuss. [16]
7. (a) What is a Composite? Give an account of major classes of Composite Materials.
(b) Discuss advantages, draw backs and applications of composite materials. [8+8]
8. (a) Describe the effect of fiber volume on young's modules of composite materials?
(b) How the load sharing between fiber and matrix take place in fiber reinforced lamina? [8+8]

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R07**Set No. 4**

**II B.Tech II Semester Examinations, APRIL 2011
AEROSPACE MATERIALS AND COMPOSITES
Aeronautical Engineering**

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

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Describe the effect of fiber volume on young's modules of composite materials?
(b) How the load sharing between fiber and matrix take place in fiber reinforced lamina? [8+8]
2. (a) What is a Composite? Give an account of major classes of Composite Materials.
(b) Discuss advantages, draw backs and applications of composite materials. [8+8]
3. What are the commonly used fibers and resins in thermoset composite Industry? Explain with their properties. [16]
4. How can be the composite materials classified according to the matrix and reinforcements? Critically discuss. [16]
5. (a) What are the various heat - treatment methods used to improve the properties of aluminum alloys?
(b) How the fibers and matrix materials are selected in the manufacture of FRP materials? [8+8]
6. (a) Differentiate between thermal expansion moulding and bag molding process mentioning their advantages and applications?
(b) What is the advantage of textile performing in composite processing? [8+8]
7. Write short notes on the following:
 - (a) evaluation of the mechanical properties of fibers.
 - (b) Testing of fibers.
 - (c) High performance Organic fibers. [6+4+6]
8. (a) What are various processes used in the production of synthetic fiber?
(b) What are the defects which generally occur in the manufacture of composite parts? Mention their remedies? [8+8]

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R07**Set No. 1**

II B.Tech II Semester Examinations, APRIL 2011
AEROSPACE MATERIALS AND COMPOSITES
Aeronautical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. (a) What are the various heat - treatment methods used to improve the properties of aluminum alloys?
 (b) How the fibers and matrix materials are selected in the manufacture of FRP materials? [8+8]
2. (a) Differentiate between thermal expansion moulding and bag molding process mentioning their advantages and applications?
 (b) What is the advantage of textile performing in composite processing? [8+8]
3. Write short notes on the following:
 (a) evaluation of the mechanical properties of fibers.
 (b) Testing of fibers.
 (c) High performance Organic fibers. [6+4+6]
4. (a) What is a Composite? Give an account of major classes of Composite Materials.
 (b) Discuss advantages, draw backs and applications of composite materials. [8+8]
5. (a) What are various processes used in the production of synthetic fiber?
 (b) What are the defects which generally occur in the manufacture of composite parts? Mention their remedies? [8+8]
6. How can be the composite materials classified according to the matrix and reinforcements? Critically discuss. [16]
7. (a) Describe the effect of fiber volume on young's modules of composite materials?
 (b) How the load sharing between fiber and matrix take place in fiber reinforced lamina? [8+8]
8. What are the commonly used fibers and resins in thermoset composite Industry? Explain with their properties. [16]

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R07**Set No. 3**

**II B.Tech II Semester Examinations, APRIL 2011
AEROSPACE MATERIALS AND COMPOSITES
Aeronautical Engineering**

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

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Describe the effect of fiber volume on young's modules of composite materials?
(b) How the load sharing between fiber and matrix take place in fiber reinforced lamina? [8+8]
2. (a) What are the various heat - treatment methods used to improve the properties of aluminum alloys?
(b) How the fibers and matrix materials are selected in the manufacture of FRP materials? [8+8]
3. (a) Differentiate between thermal expansion moulding and bag molding process mentioning their advantages and applications?
(b) What is the advantage of textile performing in composite processing? [8+8]
4. (a) What is a Composite? Give an account of major classes of Composite Materials.
(b) Discuss advantages, draw backs and applications of composite materials. [8+8]
5. Write short notes on the following:
 - (a) evaluation of the mechanical properties of fibers.
 - (b) Testing of fibers.
 - (c) High performance Organic fibers. [6+4+6]
6. (a) What are various processes used in the production of synthetic fiber?
(b) What are the defects which generally occur in the manufacture of composite parts? Mention their remedies? [8+8]
7. How can be the composite materials classified according to the matrix and reinforcements? Critically discuss. [16]
8. What are the commonly used fibers and resins in thermoset composite Industry? Explain with their properties. [16]
