Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Aerospace Engg.) (2012 Onwards) (Sem.–6)

SATELLITES AND SPACE SYSTEM DESIGNS

Subject Code : ASPE-310

M.Code : 72455

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

(a) Space logistics

(b) Orbital debris

(c) Thermal environment

(d) Spacecraft impact protection

(e) Thermal balance

(f) Attitude control of spacecraft

(g) Science instruments

(h) Space reliability

(i) Mission constraints

(j) Small satellite

SECTION-B

2. Write a note on "Spacecraft integration and test". (5)

3. Discuss about the future of space structures. (5)

4. What is the need for space mission? Explain space mission life cycle. (2,3)

5. Explain 'spacecraft configuration' and state configuration design requirements. (3,2)

6. What is spacecraft design envelope? How do you determine spacecraft design envelope? (2,3)

SECTION-C

7. Write notes on the following :

   (a) Space environment and survivability (5)

   (b) Navigation of spacecrafts (5)

8. Write notes on the following with respect to spacecraft design management :

   (a) Spacecraft reliability and quality assurance (5)

   (b) Small satellite engineering and its applications (5)

9. (a) What do you understand by thermal control of spacecraft? (2)

   (b) Explain the following with respect to thermal control of spacecrafts : (4,4)

   (i) Thermal design & design verification

   (ii) Thermal technology

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.