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

Total No. of Pages : 02

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B.Tech.(Aerospace Engg.) (2012 Batch) (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. Ionization decay decreases as _____ density falls.

b. What is a space mission?

c. What is a stereo configuration?

d. Name two mid launch phenomenon.

e. What is the operating temperature of infrared sensors?

f. What is the work done by system when spacecraft is in flight?

g. Name **any two** thermal control hardware used.

h. What is the use of Louvers?

i. What is the approximate sensing method for spacecraft attitude?

j. What is a thermal balance test?

SECTION-B

2. Explain preliminary design review of a space craft.

3. Describe the importance of space mission life cycle.

4. What are the factors responsible for thermal design of space craft?

5. What is the role of mission operator center?

6. Explain spacecraft integration.

SECTION-C

7. What do you mean by reliability? What are the assumptions in the reliability statement? Assume we have an n-component system. We usually have a choice of providing redundant components or of providing a totally redundant system. How do these two levels of redundancy compare? Assume each component has the same level of reliability, R.

8. What is a mock up? Why it is made? Explain different system mockups of a spacecraft.

9. What are the main considerations of a launch vehicle? Describe 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.