Printed Pages: 01 **Sub Code: ROE044**

Paper Id: 199266 **Roll No.** | | | | | | | | | | |

B. TECH.
(SEM IV) THEORY EXAMINATION 2018-19
SPACE SCIENCE

Time: 3 Hours *Total Marks: 70*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 7 = 14**

a. What do you understand by space science?
b. Write down about the corrections made in Kepler's third law.
c. Write down mainmeasurement techniques for weather in space?
d. What is difference between Asteroids and Comets?
e. What do you mean by Chandrasekhar limit?
f. What is Harvard classification system?
g. Define Hubble's law?

SECTION B

2. Attempt any *three* of the following: **7 x 3 = 21**

a. Discuss some important space mission and their achievements in detail.
b. Explain various measurement techniques for determination of distance in space.
c. Show the relative positions of the planets of our solar system through a neat and clean diagram. What is Pluto? Discuss its characteristics.
d. How the Galaxies were originated? Give the classification of Galaxies.
e. Define dark energy and dark matter. How do they effect the universe? Explain in detail.

SECTION C

3. Attempt any *one* part of the following: **7 x 1 = 7**

(a) What are Artificial Satellites? Describe its working principle and important applications.
(b) Describe the Individual contributions in post telescopic era by Galileo, Newton, Hubble, Gauss, Riemann, Einstein and Hawkins.

4. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Discuss eye related problems in the observation of space along with their remedies.
(b) Explain non-telescopic optical techniques used in space observation?

5. Attempt any *one* part of the following: **7 x 1 = 7**

(a) What are the advantages and disadvantages of solar winds? Discuss about Nebular hypothesis.
(b) What is Newton's Law of Gravitation? How can these be deduced from Kepler's Laws?

6. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Discuss the study of life style of stars through Hertz sprung-Russell diagram.
(b) What do you understand by luminosity of a star? How is it related with size of star?

7. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Discuss Hubble model for expansion of universe. How does it differs from Big-Bang model.
(b) Describe cosmic microwave radiation and matter density in the universe.