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PG CBCS
M.SC. Semester-III Examination, 2021
PHYSICS
 PAPER: C-PHS 304
 (SCIENCE OF UNIVERSE)

Full Marks: 40

Time: 2 Hours

Answer any **FOUR** questions of the following:

4X 10=40

1. What is the basic differences between Asteroids and Comets. Describe how our solar system was formed. Describe the concept of celestial sphere. 3+4+3
2. Describe Sun-Moon-Earth configurations during solar and lunar eclipse. "All celestial bodies are moving." Explain. 5+5
3. Define parsec and astronomical unit (AU). What is the relation between parse and light year? What is Luminosity and Radiant Flux of a star? 4+2+4
4. Explain wave particle dual properties of light. Explain Newtons law of gravity. Describe the thermal spectrum of a star. 3+3+4
5. Describe how you will do stellar classification using Hertzsprung-Russell diagram. Write a note on solar wind. 6+4
6. Describe the origin of solar energy. How one can estimate mass of Sun. What are meteors? 4+4+2
7. Describe with figure, different layers of solar atmosphere. The angular diameter of Sun is 32 arc minute. Determine the radius of Sun. Assume the distance between Sun and Earth is 1 AU. What are largest and smallest planet of solar system? 5+3+2
8. Explain how one can measure the solar luminosity. What is the chemical composition of the solar photosphere? Describe Solar cycle. 3+3+4
9. Describe with proper figures, Hubbles classification scheme of galaxies. Explain the rotation of our galaxy and how it leads to the idea of dark matter. 5+5
10. What is Hubbles law? How it leads to the idea of big bang? How you can estimate the age of the Universe? 3+4+3
