

QP CODE: 23507144



23507144

Reg No :

Name :

INTEGRATED MSC DEGREE EXAMINATION, OCTOBER 2023

Third Semester

INTEGRATED MSC BASIC SCIENCE-PHYSICS

CORE - IPH3CR03 - ASTRONOMY & ASTROPHYSICS

2021 Admission Onwards

E81621F9

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Which is the shortest day of the year?
2. Define a Quiescent Prominences.
3. Name the planets having rings around them.
4. Name the Galilean Moons of Jupiter.
5. How milky way galaxy differs from other galaxies?
6. What is dark matter?
7. What is a pulsar?
8. How colour index of a star defined?
9. What is meant by brightness temperature?
10. How stars are classified based on HD diagram?

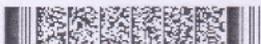
(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Define Spectroscopic parallax. Explain how spectroscopic parallax can be used to determine distances of far off stars.





12. Two stars, Canis Majoris and o Ceti, have a temperature of 9200 K and 1900 K, respectively. What are their peak wavelengths?
13. Draw a schematic diagram showing the variations of density and temperature in layers of the Sun's atmosphere starting from the photosphere.
14. Briefly discuss the energy transport mechanism in Sun.
15. Explain the HR diagram in detail.
16. What are the different stages of star formation?
17. Diiferentiate apparent and absolute magnitudes.
18. Differentiate apparent and mean solar time.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight 5 each.

19. Describe the following celestial coordinate systems i) The local equatorial celestial coordinate sytem ii)The ecliptic system.
20. Explain the formation and properties of solar wind. How solar wind affects the geomagnetic field?
21. Discuss the different stages invloved in the star formation.
22. Explain the classification of stars based on HD catalogue.

(2×5=10 weightage)

