QP CODE: 23800349

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Reg No : .....

Name : .....

INTEGRATED PG DEGREE EXAMINATION, DECEMBER 2023

Third Semester

INTEGRATED MSC BASIC SCIENCE-PHYSICS

CORE - IPH3CR03 - ASTRONOMY & ASTROPHYSICS

2020 ADMISSION ONWARDS

551BA50D

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Distinguish between sidereal calendar and solar calendar.
2. Define a parsec.
3. What is a bow shock?
4. Name the planets having rings around them.
5. Explain the death of a star.
6. What a HR diagram?
7. What is a neutron star?
8. Define absolute magnitude.
9. How elliptic system of coordinates measured?
10. What is HR diagram?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Discuss the formation and properties of sun spot.
12. Briefly discuss the properties and formation of solar wind.
13. Give a comparison on the magnetic fields of Moon and Earth.
14. Why are some planents surrounded by rings?

15. Explain the features of dark matter.

16. Write a note on pre main sequence contraction.

17. How bolometric and radiometric magnitudes of a star defined?

18. Briefly explain the inference of stellar luminosity from HR diagram.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. What is a celestial sphere? How stellar postions can be dertermined using the horizontal celestial coordinate system?

20. Explain the following; i) Absolute magnitude and the distance modulus ii)The bolometric magnitude iii)Radiometric magnitudes iv)The color index of a star v)Luminocities of a star.

21. Explain the features of clusters in detail.

22. Briefly explain the following related to stars (a) apparent and absolute magnitudes, (b) bolometric and radiometric magnitudes.

(2×5=10 weightage)