

2103000205030064
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (FIFTH SEMESTER)
ASTROPHYSICS-I LEVEL 3

[Time: As per schedule]

[Max. Marks: 50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
 - b. Name of the Subject : **ASTROPHYSICS-I LEVEL 3**
 - c. Subject Code No : **2103000205030064**
2. Sketch neat and labelled diagram wherever necessary.
 3. Symbols used in the paper have their usual meaning.
 4. All questions are compulsory.
 5. Figures to the right indicate full marks of the question.
 6. Scientific calculator may be used.

Seat No:

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Student's Signature

Q.1 Answer all the following questions in brief:

10

1. What is the advantage of the Photographic Spectrometry over Photoelectric method?
2. Explain the advantages of a refractor over reflector telescope.
3. Give the definition of Parsec.
4. Define apparent brightness of a star.
5. Define the luminosity of the stars.
6. What are Fraunhofer's lines?
7. Which star is the brightest star in the night sky?
8. Give the name of different layers of Sun on the basis of their physical characteristic.

9. Define Chromosphere.

10. What are spectrum binaries?

Q.2 A. Answer any one the following questions in detail. 6

1. Discuss Hubble Space Telescopes and also describe the use of various sensor with their applications.
2. Write a short note on Radio telescopes.

B. Answer any one the following questions in brief. 4

1. Compare the advantages and disadvantages of reflecting and refracting telescopes.
2. Write a short note on Spectrophotometry.

Q.3 A. Answer any one the following questions in detail. 6

1. Write a short note on absolute magnitude and distance module.
2. Describe the importance of ionizing theory in Astrophysics.

B. Answer any one the following questions in brief. 4

1. Write a short note on radiometric magnitude in detail.
2. Discuss the luminosity of stars and derive the relationship between total luminosity and the effective temperature of Star.

Q.4 A. Answer any one the following questions in detail. 6

1. Write a short note on Chromosphere.
2. Write a short note on Solar Wind.

B. Answer any one the following questions in brief. 4

1. Discuss Inner corona or K-corona.

2. What are Prominences? Give the different types of Prominences.

Q.5 A. Answer any one the following questions in detail. 6

1. Discuss Multiple stars.

2. Write a short note on Spectroscopic binary.

B. Answer any one the following questions in brief. 4

1. Draw the schematic light curves of eclipsing binaries.

2. Write a short note on Multiple stars.
