



RAN - 2103000205030064

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T. Y. B. Sc. (Physics) (Sem. - V) Examination March - 2023

Elective : Paper - II

Astrophysics - I (New Course)

[Total Marks: 50

सूचना : / Instructions

(1)

नीचे दृश्यावलोकन निशानीवाणी विगतो उत्तरवही पर अवश्य लभवी.
Fill up strictly the details of signs on your answer book

Name of the Examination:

T. Y. B. Sc. (Physics) (Sem. - V)

Name of the Subject :

Elective : Paper - II Astrophysics - I (New Course)

Subject Code No.: 2103000205030064

Seat No.:

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Student's Signature

- (2) Draw neat diagrams wherever necessary.
- (3) Symbols used in the paper have their usual meaning.
- (4) Figures to the right indicate full marks of the question.
- (5) Scientific calculator may be used.

Q. 1. Answer all the following questions in brief.

(10)

1. What is HST? When it was launched?
2. What is the function of an eye piece in the telescope?
3. Define Bolometric magnitudes.
4. Describe the use of faint object camera on-board Hubble Space Telescope.
5. Define Chromosphere.
6. Define colour index of the star.
7. What are Fraunhofer's lines?
8. What is the center temperature of Sun?
9. What are the different types of binary stars?
10. What is limb darkening?

- Q. 2. (A) Answer any one the following questions in detail. (6)**
- (1) Write a short note on Astronomical Spectrograph.
 - (2) Discuss Optical Telescope in detail.
- Q. 2. (B) Answer any one the following questions in brief. (4)**
- (1) Discuss the advantages of a space-based telescopes over a ground based one, for optical and infrared observations.
 - (2) Discuss various types of reflecting telescopes.
- Q. 3. (A) Answer any one the following questions in detail. (6)**
- (1) Write a short note on absolute magnitude and distance module.
 - (2) Discuss the colour index of a star in detail.
- Q. 3. (B) Answer any one the following questions in brief. (4)**
- (1) Discuss the Steller magnitude sequence in detail.
 - (2) Write a short note on radiometric magnitude in detail.
- Q. 4. (A) Answer any one the following questions in detail. (6)**
- (1) Write a short note on Solar Wind.
 - (2) Write a short note on Photosphere - Limb Darkening
- Q. 4. (B) Answer any one the following questions in brief. (4)**
- (1) Explain Outer corona or F - corona.
 - (2) Draw a schematic description of the interior and outer layers of the Sun, together with some atmospheric phenomena.
- Q. 5. (A) Answer any one the following questions in detail. (6)**
- (1) Describe the mass transfer in close binary system in detail.
 - (2) Write a short note on origin of Binary stars.
- Q. 5. (B) Answer any one the following questions in brief. (4)**
- (1) Write a short note on Multiple stars.
 - (2) Draw a nature of light variation curves of eclipsing binaries.
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