

E 6170



Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, SEPTEMBER 2024

Sixth Semester

Choice Based Course—ASTRONOMY AND ASTROPHYSICS

(Common for Model I and Model II B.Sc. Physics)

[Prior to 2013 Admissions]

Time : Three Hours

Maximum Weight : 25

Part A

Answer all questions.

Weight 1 for each bunch.

BUNCH I

1. The first pulsar was discovered by Jocelyn Bell in _____.
2. The farthest visible object with the naked eye in the sky is _____.
3. A small star consisting of elements lighter than iron which has reached the stage where no further nuclear burning is possible is called a _____.
4. Largest natural satellite in the solar system is _____.

BUNCH II

5. Lighter stars evolve into white dwarfs and _____ stars.
6. According to Hubble's law, all stars and galaxies in the _____ are getting away from us.
7. _____ is the founder of Big Bang Theory describing the origin of universe.
8. A star that suddenly glitters and gradually loses brightness and finally reaches the old brightness is a _____.

BUNCH III

9. The sidereal month is _____.
10. Corona is the extensive halo seen around the sun at the time of _____.

Turn over





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11. The stellar _____ is usually measured in seconds of arc.
12. Ecliptic defines the apparent path of the _____ in the sky as the earth revolves around it.

BUNCH IV

State True or False :

13. One light year is the distance travelled by light in one leap year.
14. Everything in the universe is expanding.
15. The earth is the densest one among the main planets in the solar system.
16. The mass of a star is related to its volume and radius.

(4 × 1 = 4)

Part B

*Answer any **five** questions.*

Weight 1 for each.

17. Explain sidereal time.
18. What are Sunspots ?
19. What is a Neutron star ? Explain.
20. What is meant by celestial sphere ?
21. What is a black hole ?
22. What is supernova explosion ?
23. What is meant by Big Bang ?
24. What is red shift ? Explain.

(5 × 1 = 5)

Part C

*Answer any **four** questions.*

Weight 2 for each.

25. Write short notes on stellar constellations.
26. Differentiate between ecliptic and galactic system of co-ordinates.





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27. Describe the atmosphere of the sun.
28. What is H-R diagram? Explain its main features.
29. Discuss the origin of galaxies.
30. Write a note on the inflationary model of the universe.

(4 × 2 = 8)

Part D

Answer any two questions.

Weight 4 for each.

31. Tabulate the sequence of incidents, features and properties of the universe, since its origin from the age of zero second, based on Big Bang theory.
32. Explain the Celestial sphere. Describe the motions of earth and stars in the celestial sphere.
33. Discuss the stars as a source of energy and explain the classification of stars.

(2 × 4 = 8)

