

Date:

Registration number:

ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27

CBCS – IV SEMESTER

SEMESTER EXAMINATION: APRIL 2022

(Examination conducted in July 2022)

**PH OE 4118 - Universe and Me**

Time- 1 ½ hrs Max Marks-35

This question paper contains **two** printed pages and **three** parts

**Part A**

**Answer the following. Choose the correct answer [10x1=10]**

1. The most energetic radiation in the electromagnetic spectrum is \_\_\_\_\_\_\_\_\_\_
2. X-ray b) Radio wave c) Ultra violet d) Gamma ray

 2. Name the radiation which is not blocked by the earth’s atmosphere.

 a) Radio waves b) Ultra violet c) Gamma ray d) X-ray

 3. Spherical aberration is avoided in the reflecting telescopes using

 a) achromatic combination of lenses b) CCD cameras c) parabolic mirrors d) concave mirrors

 4. One light year is \_\_\_\_\_\_\_

 a) the time light takes to travel a distance equal to 1 parsec

 b) the distance light travels in one year

 c) the distance light travels in one day

 d) the distance light travels one hour

 5. Sunspots are dark regions in the \_\_\_\_\_\_\_\_ layer of sun

 a) Corona b) chromosphere c) photosphere d) core

 6. The stars on the top right side of an H.R diagram are known as \_\_\_\_\_\_\_\_

 a) Red giants b) white dwarfs c) neutron star d) main sequence stars

 7. The colour of the most luminous star is \_\_\_\_\_\_\_\_\_

 a) Yellow b) Blue 3) White 4) Red

 8. The evolutionary stage of the star in which the nuclear fusion just begins is \_\_\_\_\_\_\_

 a) main sequence stage b) red giant stage c) proto star stage d) neutron star stage

 9. The Milky Way galaxy is \_\_\_\_\_\_\_ galaxy

 a) a barred spiral b) an elliptical c) a lenticular d) an irregular

 10. The theory that helps to understand the origin of the universe is \_\_\_\_\_\_\_\_

 a) Hubble’s law b) Gravitational Theory c) Einstein’s theory of relativity d) Big bang theory

  **Part B**

 Answer any **five** of the following [5 x 4= 20]

 11.Write a note on any one of the Seven windows to the universe

 12. What are the advantages of modern reflecting telescopes?

 13. Why do we say that the life of a star is a constant struggle against gravity?

 14. What is Chandrasekhar limit? Explain its significance

 15. Explain the structure of our home galaxy.

 16. What is Hubble’s law? What is the significance of the law?

 17. What are the different layers of sun and explain briefly about them?

  **Part C**

 Answer any **one** of the following [1 x 5= 5]

 18. Explain briefly the topic you have chosen for the seminar in the “Universe and me” class.

 19.Write an essay on the evolutionary stages of a sun like star