



Register Number:
Date: 16/10/2019

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27

PG OPEN ELECTIVE - III SEMESTER

SEMESTER EXAMINATION: OCTOBER 2019

PHOE 9418 – ASTROPHYSICS

Time- 1½hrs

Max Marks-35

This paper contains TWO printed pages and 3 parts

PART – A

Answer any TEN. Each question carries ONE mark.

[1 x 10 = 10]

1. Which of the following is NOT a general difference between a planet and a star?
 - a. Planets are smaller than stars
 - b. Planets are dimmer than stars.
 - c. All planets are made of rock and all stars are made of gas
 - d. Planets orbit stars, while stars orbit the centre of the galaxy.
2. What is one light year?
 - a. Speed on light in one year
 - b. Distance travelled by light in one year
 - c. Time taken by light in one year
 - d. None of the above.
3. The total number of stars in the observable universe is about _____
 - a. 100 billion
 - b. The same as the number of grains of sand on all the beaches on earth
 - c. The same as the number of grains of sand in a large 1 meter cube box
 - d. The same as the number of atoms that make up the earth.
4. Why is Earth a privileged planet?
 - a. Because we live on it
 - b. Because it is designed for discovery
 - c. Because it supports life
 - d. All of the above
5. If you had something the size of a sugar cube that was made of neutron star matter, it would weigh _____
 - a. As much as the entire Earth
 - b. As much as a truck
 - c. About 50 pounds
 - d. As much as a large mountain.
6. Name the Scientist who discovered that our Universe is expanding?
 - a. Sir Isaac Newton
 - b. Sir William Herschel
 - c. Edwin Hubble
 - d. Nicholas Copernicus
7. Which among the four has the longest wavelength
 - a. Radio waves
 - b. Infrared waves
 - c. Ultraviolet waves
 - d. Gamma waves
8. What is the most abundant element in the Earth's atmosphere?
 - a. Argon
 - b. Carbon dioxide
 - c. Nitrogen
 - d. Oxygen
9. Which among these is not a cause according to Aristotle
 - a. Material cause
 - b. final cause
 - c. Efficient cause
 - d. practical cause
10. What is the name of the Chandrayaan – 2 lander?
 - a. Pragyan
 - b. Surya
 - c. Vikram
 - d. Prabhash
11. Which among these is the largest star?
 - a. Betelgeuse
 - b. proxima Centauri

- c. UV scuti
12. Which planet is called as the morning and evening star?
a. Mars
c. Venus
13. What does creation ex-nihilo mean?
a. Creation out of something
c. Creation is nothing
14. If one see lines with many colors through spectrometer, what kind of spectrum is one looking at
a. Discrete emission spectrum
c. Continuous emission spectrum
15. What tragic event in 2003 halted the US involvement with the International Space station
a. Hurricane Katrina
c. Columbia space shuttle crash
- d. Canis Majoris
b. mercury
d. Saturn
b. Creation is everything
d. Creation out of nothing
b. Discrete absorption spectrum
d. continuous absorption spectrum
b. Tsunami
d. Financial downfall

PART – B

Answer any **THREE QUESTIONS**. Each question carries **5** marks.

[3 x 5 = 15]

16. What is the significance of space based observations.
17. Write a note on space tourism.
18. Explain why the universe is often called a Tri-Universe.
19. Briefly explain the significance of infrared astronomy
20. Write a note on the size and distance of cosmological objects.

PART – C

This question carries **10** marks

21. Explain in about 250 words your journey through the cosmos in the CBCS class.

[1 x 10 = 10]