PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(First Semester)

Branch -PHYSICS

ASTROPHYSICS AND PHILOSOPHY OF PHYSICS

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10x1 = 10)

1 Electric motor was invented by
   (i) Hamilton [1]   (ii) Michael Faraday
   (iii) Edison   (iv) Max Bom

2 Sum-centered system (heliocentric) was proposed by the astronomer
   (i) Kepler   (ii) Ptolemy
   (iii) Nicolas Copernicus   (iv) Galileo

3 The brightest star in the night sky is
   (i) Polaris   (ii) Rigel
   (iii) Vega   (iv) Sirius

4 On the celestial sphere, the circle which is located 90° from the zenith is
   (i) ecliptic   (ii) meridian
   (iii) horizon   (iv) equator

5 The mean distance of the earth from the sun is
   (i) 2.49×10^{11} m   (ii) $1.496 \times 10^{,5}$ m
   (iii) 1.49×10^{20} m   (iv) 1.496×10^{u} m

6 Flow many times the Cepheids are brighter than the sun?
   (i) 2000   (ii) 5000
   (iii) 1000   (iv) 20,000

7 The following planet is known as blue planet.
   (i) Mars   (ii) Mercury
   (iii) Venus   (iv) Earth

8 A small body containing ice, rock or comic dust revolving around the sun
   giving off gas is called
   (i) meteorite   (ii) meteors
   (iii) comet   (iv) star

9 A white dwarf will eventually cool down forming the hypothetical object
   (i) Black dwarf   (ii) Brown dwarf
   (iii) Red dwarf   (iv) Block hole

10 A spectrum of a star is made up of
   (i) spectrum lines   (ii) emission lines
   (iii) coordinate lines   (iv) dark lines

SECTION - B (35 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks (5 x 7 = 35)

1 1 a Explain the contribution of Marie Curie in the research of radioactivity.
OR
b Describe the contribution of Roentgen in the discovery of X-rays.

12 a   Explain with neat diagram the photoelectric method of measuring the apparent luminosity of stars.
OR
b Discuss the photographic method of measuring the apparent luminosity of stars.

13 a Explain the period-luminosity law.
OR
b Explain how the distance of moon is measured from the earth.

14 a Explain the Big-bang theory.
OR
b Explain the atmosphere of the planets.

15 a Describe the effect of hydrogen depletion in main sequence stars.
OR
b Write a note on two dimensional classification of stars.

SECTION - C f30 Marks!
Answer any THREE Questions
ALL Questions Carry EQUAL Marks (3 x 10 = 30)

16   Bring out the inventions of Newton in detail.

17   Explain in detail the universal equatorial system of celestial coordinates,

18   Describe in detail the secular parallax method of determining stellar distance.

19   Describe briefly about the asteroids and comets.

20   Describe Schwarzschild method for real stars.

Z-Z-Z   END