

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch - PHYSICS

ASTROPHYSICS & PHILOSOPHY OF PHYSICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 1 = 10)

- 1 Indicate super conductivity was first discovered by
(i) Max Born (ii) Dirac
(iii) K.Onnes (iv) Feynman
- 2 Which scientist got nobel prize for the invention of photoelectric effect.
(i) Newton (ii) Sir C.V.Raman
(iii) Faraday (iv) Einstein
- 3 Find brightness of a Star which can be seen from the earth is called
(i) absolute magnitude (ii) apparent magnitude
(iii) parallax (iv) light year
- 4 Identify during the night, the stars moves generally
(i) Westward (ii) Eastward
(iii) Southward (iv) Northward
- 5 Mention the minor planet Eros comes quite close to the earth, giving a horizontal parallax of about
(i) 76'' (ii) 20''
(iii) 24'' (iv) 176''
- 6 Find the correct ascending order of distance of planets from sun is
(i) Mars, Earth, Jupiter, Saturn (ii) Earth, Mars, Jupiter, Saturn
(iii) Earth, Mars, Saturn, Jupiter (iv) Earth, Jupiter, Mars, Saturn
- 7 The magnitude of asteroids are found between the orbits of
(i) Mars and Jupiter (ii) Earth and Mars
(iii) Jupiter and Saturn (iv) Saturn and Uranus
- 8 Indicate the following planet is considered as 'Earth's Twin'.
(i) Mars (ii) Mercury
(iii) Venus (iv) Saturn
- 9 Identify the age (in years) of globular clusters is
(i) 1.2×10^{10} (ii) 4×10^9
(iii) 5×10^7 (iv) 4×10^8
- 10 Choose the most significant force that determines the evaluations of stars is
(i) gas pressure (ii) gravity
(iii) electromagnetism (iv) all the above

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a Bring out the work of Nicolas Copernicus.

OR

- 12 a Describe the ecliptic system of Celestial coordinates.
OR
b Explain the local equatorial system of Celestial coordinates.
- 13 a Describe the Surveyor's method of measuring the terrestrial distances.
OR
b Explain the concept of absolute magnitude.
- 14 a Explain the Milky Way galaxy.
OR
b How will you estimate the surface temperature of the sun?
- 15 a Explain Nuclear time scale.
OR
b Explain the Schoenberg-Chandrasekhar limit of an isothermal core.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Summarize the inventions of Sir.C.V.Raman.
- 17 Discuss in detail various magnitude and colour systems used by astronomers.
- 18 Enumerate in detail the cluster Parallax method of determining stellar distances.
- 19 Discuss with a neat diagram, the principle and working of radio telescope.
- 20 Obtain the fundamental equations of Stellar structure.

Z-Z-Z

END