

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022  
(First Semester)

Branch – PHYSICS

**ASTROPHYSICS AND PHILOSOPHY OF PHYSICS**

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. The man who is known as the father of experimental physics is.....  
(a) Galileo (b) Newton  
(c) Albert Einstein (d) Rutherford
2. The imaginary sphere on which star appears to lie is known as.....  
(a) Cylindrical sphere (b) Spheroid  
(c) Celestial sphere (d) Zenithal sphere
3. Steller distances are measured in.....  
(a) kilometer (b) Light years  
(c) Per second (d) Chandrasekar limit
4. The big bang was a what?  
(a) Explosion (b) Unknown  
(c) Contraction (d) Expansion
5. How much mass does a star need to end in a supernova?  
(a) 8 solar masses (b) 17 solar masses  
(c) 3 solar masses (d) 1 solar masses

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Explain the work of Galileo Galilei.  
OR  
b Outline the contribution of S.Chandrasekar in science.
- 7 a What is meant by Spherical coordinates.  
OR  
b Write a short note on magnitude scale.
- 8 a Discuss about the cluster paradox.  
OR  
b Outline the uses of other brighter objects.
- 9 a What do you mean by surface temperature.  
OR  
b Write a note on milky way galaxy.
- 10 a Explain the structure of star.  
OR  
b Discuss about abundancies of element in stars

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Discuss the origin and development of science during 18<sup>th</sup> century.  
OR  
b Discuss the origin contribution of scientist of physics during 20th century.
- 12 a Briefly explain the universal equatorial system.  
OR  
b Explain the measurement of apparent luminosity.
- 13 a Explain the measurement of distances within the solar system.  
OR  
b Explain the concept of absolute magnitude.
- 14 a Explain the following:  
(i) Refractive telescope  
(ii) Reflecting telescope.  
OR  
b Write a note on:  
(i) Asteroids  
(ii) Comets  
(iii) Meteorites.
- 15 a Explain the two dimensional classification of stars.  
OR  
b Briefly explain Chandrasekar limit of an isothermal core.

Z-Z-Z

END