

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2024
(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 × 1 = 10)

Question No.	Question	K Level	CO
1	C.V Raman was the first Asian and non-white person to receive a Nobel prize in which field ? a) Chemistry b) Physics c) medicine d) peace	K4	CO3
2	Kepler was the assistant to which famous Astronomer ? a) Galileo Galilei b) Isaac newton c) Tycho Brahe d) Nicolaus Copernicus	K5	CO4
3	Which of the following materials is most commonly used for studying the Photoelectric effect ? a) Aluminium b) copper c) sodium d) Iron	K4	CO3
4	Which of the following is a traditional light – sensitive material used in Photography ? a) Gold b) Silver Halide c) copper d) Iron	K4	CO3
5	What colour are the hottest stars? a) Red b) yellow c) blue d) white	K2	CO1
6	What type of galaxy is the milky way ? a) Elliptical b) spiral c) irregular d) lenticular	K4	CO3
7	What determines the lifespan of a star ? a) size b) colour c) mass d) distance from earth	K2	CO1
8	What is the observable universe's estimated age..... billion years ? a) 4.6 b) 10 c) 13.8 d) 100	K5	CO4
9	What is the approximate value of the Chandrasekhar limit Solar Masses ? a) 1 b) 1.4 c) 2.0 d) 3.0	K3	CO2
10	What colour is a typical M type Star ? a) Blue b) yellow c) red d) white	K4	CO3

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Assess Stephen hawkins influence on popular science.	K4	CO3
(OR)			
11.b.	Analyze the Historical development and philosophical implications of the Biot savart Law.		
12.a.	Explain photoelectric method.	K4	CO2
(OR)			
12.b.	Write short note on azimuthal system.		
13.a.	Analyze the impact of space miasions on our understanding of solar system distance	K2	CO1
(OR)			
13.b.	Explain spectroscopic parallax method.		
14.a.	Explain Radio telescope.	K2	CO1
(OR)			
14.b.	Write the physical properties of stars.		
15.a.	Derive the equations of stellar structure.	K3	CO2
(OR)			
15.b.	Explain Chandrasekhar limit.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Question No.	Question	K Level	CO
16	Explain work of Nicolas Copernicus.	K6	CO5
17	Describe about the photographic method .	K3	CO2
18	Write short note on (i) cluster parallax (ii) secular parallax	K3	CO2
19	Explain milky way galaxy.	K4	CO3
20	Explain Eddington's standard model.	K2	CO1