22PHU101N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(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)

Q.No	Question	K Level	CO
1	Who proposed the quantum theory of light a) Isaac newton b) Max planck c) Albert Einstein d) Neils Bohr	K4	CO3
2	Heike kamerlingh onnes is best known for his discovery of a) Radioactivity b) quantum theory c) superconductivity d) X rays	K5	CO4
3	Which of the following is the largest structure in the universe? a) solar system b) Galaxy c) Star d) Galaxy cluster	K4	CO3
4	Luminosity is a measure of a star's ..... a) temperature b) brightness c) total energy output d) size	K4	CO3
5	What is the most common unit used to express stellar distance? a) km b) light years c) AU d) m	K2	CO1
6	A radio telescope is designed to detect a) visible light b) x rays c) IR d) radio waves	K4	CO3
7	A comet's orbits typically a) circular b) highly elliptical c) Rectangular d) triangular	K2	CO1
8	The mas of the sun is about how many tims the mass of the earth a) 10 times b) 100 times c) 330,000 times d) 1 million times	K5	CO4
9	In which stage of a star's life does hydrogen depletion mainly occur ? a) main sequence b) red giant c) white dwarf d) neutron star	K3	CO2
10	The'' nuclear time scale '' for the sun;s current phase is approximately .... Million years a) 10 Million b) 100 Million c) 4.6 billion d) 100 billion	K4	CO3

SECTION - B (35 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Q.No	Question	K Level	CO
11 a	Explain modern physics.	K4	CO3
	(OR)		
11b	Explain the significance of charles –Augustin de coulomb's work in the development of electrostatics.		
12 a	Write short note on celestial Coordinates.	K4	CO2
	(OR)		
12b	Discuss about the measurement of apparent luminosity.		
13 a	Explain stellar distance.	K2	CO1
	(OR)		
13 b	State period Luminosity law.		
14 a	Explain solar system.	K2	CO1
	(OR)		
14 b	Write short note on mass of the sun.		
15 a	Explain polytrophic models.	K3	CO2
	(OR)		
15 b	State virial theorem.		

Cont...

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Q.No	Question	K Level	CO
16	Explain work of Galieo Galiei.	K6	CO5
17	Describe about the photoelectric method.	K3	CO2
18	Write short note on Trigonometric parallax of stars.	K3	CO2
19	Explain Big bang theory.	K4	CO3
20	Explain Chandrasekhar limit of an isothermal core.	K2	CO1

Z-Z-Z END