Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - JANUARY 2024
SUBJECT: BHS-203 PHYSICS I
(OLD SCHEME - MAKE-UP)

Marks: 50   **Duration: 150 mins.**

Answer all the questions.

2.   **Short descriptive questions:**

2A)	**Find the dimensional formula of force.**	**(2)**
2B)	**Define scalar product of two vectors.**	**(2)**
2C)	**If A=2i+3j+4k and B=4i+3j+2k. Find the angle between A and B.**	**(2)**
2D)	**A projectile is fired with a speed u at an angle θ with the horizontal. Find its speed when its direction of motion makes an angle α with the horizontal.**	**(2)**
2E)	**Write Newton's second law of motion.**	**(2)**
2F)	**What is centripetal force?**	**(2)**
2G)	**Write work-energy theorem.**	**(2)**
2H)	**How do you define pressure in a fluid?**	**(2)**

2I)	A 5.0 cm long straight piece of thread is kept on the surface of water. Find the force with which the surface on one side of the thread pulls it. Surface tension of water is 0.076 N/m.	(2)
2J)	What is viscosity?	(2)
2K)	A scooter weighing 150 kg together with its rider moving at 36 km/hr is to take a turn of radius 30 m. What horizontal force on the scooter is needed to make the turn possible?	(2)
2L)	What are longitudinal waves?	(2)
2M)	What is refraction?	(2)
2N)	What is myopia?	(2)

3. Descriptive questions:

3A)	Explain working of a barometer.	(3)
3B)	What are beats? Explain.	(3)
3C)	Write five properties of light.	(3)
3D)	If the speed of a transverse wave on a stretched string of length 1m is 60 m/s. What is the fundamental frequency of vibration?	(3)

4. Long question:

4)	How many type of spectra are there? Give their brief introduction.	(5)
5)	Explain the working of a compound microscope.	(5)

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