Roll No. _____

END SEMESTER EXAMINATION
SEMESTER- I (Old Course)

COURSE CODE : G-105 **DURATION : 3 (THREE)HRS**
COURSE TITLE : PHYSICS-I **MAXIMUM MARKS : 75**
SESSION : JULY-DEC 2021 **PASS MARKS : 35 %**

NOTE: *1. Attempt any 5 (five) questions*
2. Mark for each question is shown against it.
4. Assume suitable logical data wherever necessary.

1.	**Write short notes-**		**(5x3)**
	(a)	Difference between mass and Weight	
	(b)	Simple Harmonic motion	
	(c)	Modulus of Elasticity	
2.	**(a)**	What do you mean by fundamental and derived units? Explain with an example.	**(6)**
	(b)	Mention the seven fundamental quantities along with its SI unit and symbol.	**(7)**
	(c)	What do you mean by least count?	**(2)**
3.	**(a)**	Differentiate between scalar and vector quantity.	**(5)**
	(b)	State Newton's 2nd law of motion. A body of mass 5 kg is moving with an acceleration of 2 m/sec^2	**(2+3)**
	(c)	Define linear momentum and impulse.	**(5)**
4.	**(a)**	State law of conservation of energy. Explain transformation of energy by giving an example.	**(2+3)**
	(b)	Derive the relationship between acceleration due to gravity (g) and gravitational constant (G).	**(5)**
	(c)	How does the acceleration due to gravity (g) varies with altitude and latitude?	**(5)**
5.	**(a)**	Define work. If a man does work of 10 joules in 2 second than calculate the power involved in it?	**(2+3)**
	(b)	What are the different methods of transmission of heat?	**(6)**
	(c)	What do you mean by specific heat and latent heat?	**(4)**
6.	**(a)**	Explain stress strain curve along with diagram.	**(6)**
	(b)	What is hydraulic press? Explain the working and principle of hydraulic press.	**(2+5)**
	(c)	State Hook's law.	**(2)**
7.	**(a)**	Write down the difference between longitudinal wave and transverse wave.	**(5)**
	(b)	Explain Echo and Reverberation.	**(5)**
	(c)	What is musical sound? Write its characteristic.	**(2+3)**
8.	**(a)**	An object is thrown upward with an initial velocity of 25 ms^{-1}. If its acceleration is 10 ms^{-2} downward i) how long does it takes for the object to reach its highest point? ii) What is the greatest height reached by the object?	**(3+3)**
	(b)	What is inertia? Distinguish between mass and weight.	**(2+3)**
	(c)	Explain components and working principle of hydrometer.	**(4)**

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