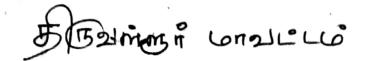
Reg.No.



13.11.2024

SECOND MID TERM TEST - 2024

Standard XI

PHYSICS						
Γim	e : 1.30 hrs Pa	rt - I		•	Marks : 50	
	Choose the correct answer:	¥.			10 x 1 = 10	
١.	The graph between volume and temper	atur	e in Charle's law	is		
	a) an ellipse b) a circle	c)	a parabola	d) a straight l	ine	
2.	When you exercise in the morning, by co		•			
	which of the following is true?		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	a) $\Delta U < 0, W > 0$ b) $\Delta U > 0, W > 0$	c)	$\Delta U < 0, W < 0$	d) $\Delta U = 0$, W	> 0	
3.	In an isochoric process, we have	-,				
	a) $W = 0$ b) $Q = 0$	c)	$\Delta U = 0$	d) $\Delta T = 0$		
4.	With an increase in temperature, the vis	•			ly will	
	a) increase and increase		increase and d			
	c) decrease and increase	•	decrease and		11.2	
5.	If the temperature of the wire is increase	•				
	a) remain the same		decrease			
	c) increase rapidly	d)	increase by ver	y a small amo	unt	
6.	Two wires are made of the same mate	rial	and have the sa	me volume. Ti	he area of	
	cross sections of the first and the second					
,	of the first wire is increased by Δl on ap					
	stretched the second wire by the same amount?					
	a) 2 F b) 4 F		8 F	d) 16 F		
7.	the state of the s					
structured by the same load, then the stress on Y is						
	a) equal to that on X		thrice that on X			
	c) nine times that on X		half that on X			
3.	f the mass and radius of the Earth are both doubled, then the acceleration due to					
	gravity 'g'				V.	
	a) remains same b) g/2	c)	2 g	d) 4 g		
9.	According to Kepler's second law, the re	adia	l vector to a plar	net from the Si	un sweeps	
	out equal areas in equal intervals of time	e. Ti	nis law is a con ^o	equence of		
•	a) conservation of linear momentum		conservation of		entum	
	c) conservation of energy		conservation of	kinetic energy	!	
10.	An object of mass 10 kg is hanging on a	spri	ng scale which is	s attached to th	ne roof of a	
	lift. If the lift is in free fall, the reading in the spring scale is					
	a) 98 N b) zero		49 N	d) 9.8 N		
	-,	*			4	
	·					

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XI Physics

Part - II

II. Answer any 5 questions. (Q.No.18 is compulsory)

 $5 \times 2 = 10$

- 11. Define the gravitational field. Give its unit.
- 12. What is meant by escape speed in the case of the Earth?
- 13. State Newton's Universal law of gravitation.
- 14. Which one of these is more elastic, steel or rubber? Why?
- 15. State the law of Flotation.
- 16. State Stefan-Boltzmann law.
- 17. What is PV diagram?
- 18. A wire of length 2 m with the area of cross-section 10⁻⁶ m² is used to suspend a load of 980 N. Calculate the stress developed.

Part - III

III. Answer any 5 questions. (Q.No.26 is compulsory)

 $5 \times 3 = 15$

- 19. What are geostationary and polar satellites?
- 20. Why is there no lunar eclipse and solar eclipse every month?
- 21. Distinguish between streamlined flow and turbulent flow.
- 22. State the principle and usage of Venturi meter.
- 23. What are the factors affecting the surface tension of a liquid?
- 24. Define specific heat capacity and give its unit.
- 25. Why does heat flow from a hot object to a cold object?
- 26. A refrigerator has COP of 4. How much work must be supplied to the refrigerator in order to remove 200 J of heat from its interion?

Part - IV

IV. Answer all the questions.

 $3 \times 5 = 15$

27. a) Explain the variation of g with depth from the Earth's surface.

(OR)

- b) Explain in detail Newton's law of cooling.
- 28. a) Explain the different types of moduli of elasticity.

(OR)

- b) Discuss various modes of heat transfer.
- 29. a) Derive an expression for energy of satellite.

(OR)

b) State and prove Bernoulli's theorem for a flow of incompressible non-viscous and streamlined flow of fluid.
