www.Trb Tnpsc.Com

FIRST REVISION 1E51 - 2025 akwaacademy.blogspot.com Standard - XI

Time: 3.00 hrs	PHY	SICS		Marks:70	
	Pa	rt - A			
I Answer all the questi	ons. Choose the	correct answers.		15x1=15	
1. If the masses of the	Earth and Sun suc	Idenly double, the	gravitational fo	orce	
between them will.		Constitution of the 1975			
a) remains the same	b) incre	ease 2 times			
c) increase 4 times	d) deci	d) decrease 2 times			
2. The Wettability of a	Surface by a liquid	defends primarily o	on Con		
a) viscosity	b) surfa	ace tension			
	d) angle		the surface ar	nd the liquid	
3. The efficiency of a he				F1400 00 00 00	
of water is					
a) 6.25%	b) 20%	c) 26.8%	d) 12.5%		
· Co					
4. The ratio $\gamma = \frac{C_P}{C_V}$ for	a gas mixture cons	sting of 8g of heliur	m and 16g of o	xygen	
is	Well that I have		44 At 116 feet		
	1.0360 m / / /		sans suscioni		
a) $\frac{23}{15}$	15	c) $\frac{27}{17}$	17.		
a) 15	$\frac{\mathbf{b})}{23}$	c) 17	27		
		n d			
. In a simple harmonic	oscillation, the acce	leration against disp	placement for	one	
complete oscillation w	ill be		and the profession of the	£61	
a) an ellipse	b) a circle	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	a d) a straight		
. A sound wave whose			then hits the w	ater	
surface. The ratio of	its wavelengths in w	ater and air is			
a) 4.30	b) 0.23	c) 5.30	d)1.23	TA ME	
. Force acting on the pa	article moving with c	onstant speed is		ia a:	

b) need not be zero

d) cannot be concluded

a) always zero

c) always non-zero

			vi Physi		
8 The length	of a body is measured a	is 3.51m, if the accuraci	is 0.01m, then the		
	error in the measureme		- 1 ()		
a) 351%	b) 1%	6) 0 28%	d) 0.035%		
9. A rope is w	ound around a hollow cy	linder of mass 3kg and	radius 40cm. What is		
a) 0.25 rad	s 2 b) 25 rad	nder if the rope is pulled s ⁻² c) 5 ms ⁻²	d with a force 30N?		
10. A uniform f	orce of (2i + j)N acts on	a particle of mass 1kg.	The particle displaces		
from position	on $(3j+k)$ m to $(5i+3j)$	m. The workdone by th	ne force on the particle is		
			error in the second second		
a) 9J	b) 6J	c) 10J	d) 12J		
11. Two objects	of masses m, and m, f				
ratio of the i	magnitude of their mome	enta when they hit the gr	ound is		
\sqrt{h}			to y maintain of the		
a) Vh,	b) $\sqrt{\frac{m_1h_1}{m_2h_2}}$	c) $\frac{m_1}{m_2} \sqrt{\frac{h_1}{h_2}}$	d) $\frac{m_1}{m_2}$		
The second second	A STATE OF THE STA	m_2 $\sqrt{n_2}$	<i>m</i> ₂		
	f Wien's constant is				
	mk b) 5.67x108 mk	c) 2.898x10 ⁻³ mk	The second secon		
	rature of the wire is incr	eased, then the Young'	s modulus will		
a) remain the same		b) decrease	b) decrease		
c) increase rapidly		d) increase by very a small amount			
14. The velocity	of a particle V at an insta	ant t is given by V=at+b	2. The dimensions of b		
is					
a) [L]	b) [LT-1]	c) [LT-2] d) [L	T-3]		
15. If the linear r	nomentum of the object				
is increased	by				
a) 0.1%	b) 0.2%		.01%		
		ART - B			
		ANTI- Dan Take the second			
II. Answer any s	ix questions. Questio		•		
16. Define Centre	of mace				
and the same of th	nsional constant? Give				
	iolonal odilonaliti olivo	(1)	the same that and the		

18. Calculate the energy consumed in electrical units when a 75W fan is used for 8

hours daily for one month (30 days).

XI Physics

www.Trb Tnpsc.Com

- 19. State Stefan Boltzmann law.
- 20. Write down the relation between frequency, wavelength and velocity of a wave.
- 21. Which one of these is more elastic, steel or rubber? Why?
- 22. Difference between distance and displacement.
- 23. State the law of equipartition of energy.
- 24. During a cyclic process, a heat engine absorbs 500J of head from a hot reservoir, does work and ejects an amount of heat 300J into the surroundings. Calculate the efficiency of the heat engine?

PART - C akwaacademy.blogspot.com

III. Answer any six questions. Question number 33 is compulsory.

6x3=18

- 25. Give the applications of dimensional analysis.
- 26. If the position vector of the particle is given by

$$\overline{r} = 3t^2\hat{i} + 5t\hat{j} + 4\hat{k}$$
. Find

- a) The velocity of the particle at t=35 b) Speed of the particle at t=35
- 27. Explain about the geostationary and polar satellites.
- 28. State the laws of simple pendulum?
- 29. Explain the types of thermal expansion.
- 30. Difference between progressive waves and standing waves.
- 31. State Newton's laws of motion?
- 32. Distinguish between elastic and inelastic collision.
- 33. If a flute sounds a note with 450Hz, what are the frequencies of the second, third, and fourth harmonics of this Pitch?

PART - D

IV. Answer in detail.

5x5 = 25

34. a) Derive Mayer's relation for an ideal gas.

(OR)

b) Explain how overtones are produced in a closed organ pipe.

www.Padasalai.Net

www.Trb Tnpsc.Com