Paper Code 2024 (1st-A) Roll No: MTN-1-24 Number: 2477 INTERMEDIATE PART-I (11th Class) **PHYSICS** PAPER-I **GROUP-I TIME ALLOWED: 20 Minutes OBJECTIVE MAXIMUM MARKS: 17** You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. S.# **QUESTIONS**  $\frac{\mathbf{A}}{(F_1 - F_2)^2}$ The resultant of two forces  $\vec{F_1}$  and  $\vec{F_2}$  $F_1 + F_2$ making an angle of 90° with each other is: 2 The magnitude of  $\hat{j} \cdot (\hat{k} \times \hat{i})$  is equal to:  $2\hat{i}$ -2 î 3 The velocity of a body changes with Zero Negative Constant Increases constant rate. The acceleration is: The velocity time graph of a body is shown. It implies Force is positive Force is Force is zero Force is that: negative constant 5 Vertically Gravity performs zero work when body Vertically Inclined plane In a vertical accelerates: upward downward loop The acceleration of an object falling  $5ms^{-2}$  $9.8 ms^{-2}$  $0ms^{-2}$ -9.8ms<sup>-</sup> freely is: The rotational K.E of any ring of  $\frac{1}{2}mr^2$  $\frac{1}{4}mr^2\omega^2$ radius 'r' is given by: 8 The viscosity of water at  $30^{\circ}C$  is:  $0.019 Nm^{-2}s$  $1000 Nm^{-2}s$  $1Nm^{-2}s$  $0.801Nm^{-2}s$ The time period of a simple pendulum, 2π sec  $20\pi \sec$  $\frac{2}{\pi}$  sec  $2\pi\sqrt{0.1}$  sec whose length is 980m is: The speed of sound wave is independent of 10 Pressure Medium Source of Temperature sound A longitudinal sinusoidal wave has wavelength of 1cm with a time period  $0.005 ms^{-1}$  $2ms^{-1}$  $50ms^{-1}$  $0.5 ms^{-1}$ of 2 sec, its wave velocity is: 12 Which one of the given cannot be polarized? Radio Microwaves Light waves Sound waves waves 13 The minimum number of rays required 4 5 3 by a lens to form an image are: 14 When heat is removed from the system, Remain same Positive Negative Zero entropy is: 15 For mono atomic gas  $C_V = \frac{3}{2}R$ , therefore  $\frac{5}{3}$ 2 gamma " $\gamma$ " for gas is: How many colours are used by colour 16 3 4 5 6 printing to produce the entire range of colours? 17 Force Momentum Heat Velocity The dimensions of the relation  $mc^2$  are equal to the dimensions of:

17(Obj)(☆☆☆☆)-2024(1<sup>st</sup>-A)-30000 (MULTAN)

TIME ALLOWER: 3.40 Hours  NOTE: Write same question number and its parts number on answer book, as given in the question paper.  SECTION:  Attempt any eight parts.  Attempt any eight parts.  Attempt any eight parts.  Sx 2 − 16    How would a numerical data should be rounded off up to last significant figure?    What do you check the correctness of an equation?    What do you understand about precise and accurate measurement?    What do you understand about precise and accurate measurement?    What do you understand about precise and accurate measurement?    What one of the part of the p		INTERMEDIATE PART-I (11 <sup>th</sup> Class) 2024 (1"-A) Roll No: 70 1 1 2 2 7		
NOTE: Write same question number and its parts number on answer book, as given in the question paper.				
SECTION-1	TIME			
2. Attempt any eight parts.  (i) How would a numerical data should be rounded off up to last significant figure?  (ii) What do you understand about precise and accurate measurement?  (iv) An old saying is that "A chain is only as strong as its weekest link" what analogous statement can you make regarding experimental datu send in computation?  (v) Two vectors have unequal magnitude. Can their sum be zero? Explain.  (vi) What is the minimum value of teusion in the string?	NOTE	: Write same question number and its parts number on answer book, as given in the question paper.		
1   How do you check the correctness of an equation?	-			
(ii) What do you understand about precise and accurate measurement?  (iv) An old saying is that "A chain is only as strong as its weakest link" what analogous statement can you make regarding experimental data used in computation?  (v) Two vectors have unequal magnitude. Can their sum be zero? Explain.  (vi) What is the minimum value of tension in the string?  (vii) How do you subtract two vectors?  (viii) An object is hrown vertically upward. Discuss the sign of acceleration due to gravity relative to vefocity, while the object is in air.  (ix) How a rocket is propelled in space?  (x) When a moving car stops quickly, in what direction passengers fall and why?  (xii) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, L <sub>∞</sub> mur.  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (iv) Explain the term viscosity.  (vii) Why fog droplets appear to be suspended in air?  (viii) Can we realize an ideal simple pendatum?  (x) Describe some commen phenomena in which resonance plays an important role?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) What features do longitudinal waves have in compon with transverse waves?  (x) Explain why sound travels faster in warm air than in celd air?  (x) Describe some commen phenomena in which resonance plays an important role?  (x) Explain why sound travels faster in warm air than in celd air?  (xii) What is esseen pendulum also write its length, time period and frequency?  (x) Describe some commen phenomena in which resonance plays an important role?  (x) Explain why sound travels faster in warm air than in celd air?  (xii) What is the distance between interference franges affected by the separation between the silts of Young's experiment? Can fringes disti		tempt any eight parts.		
(iii) What do you understand about precise and accurate measurement?  (iv) An old saying is that "A chain is only as strong as its weekst link" what analogous statement can you make regarding experimental data used in computation?  (iv) Two vectors have unequal magnitude. Can their sum be zero? Explain.  (iv) What is the minimum value of teusion in the string?  (iv) What is the minimum value of teusion in the string?  (ivi) How a vector is the unequal magnitude. Can their sum be zero? Explain.  (ivi) How a vector is the unequal magnitude. Can their sum be zero? Explain.  (ivi) How a rocket is propelled in space?  (ivii) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity relative to velocity, while the object is in at:  (ix) If how a rocket is propelled in space?  (ix) What is the method of fermeutation?  (ix) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver clange his body position before and after diving in the pool?  (iv) Explain the term viscosity.  (iv) Why does a diver clange his body position before and after diving in the pool?  (iv) Explain the term viscosity.  (iv) What is second pendulum also write its length, time period and frequency?  (iv) What is second pendulum also write its length, time period and frequency?  (iv) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomean in which resonance plays at important role?  (ix) A wave has speed 400 m/scc. Find wavelength of a wave if frequency is 2 kHz.  (ix) Explain why sound travels faster in warm air than in cold air?  (iv) What is caused to realize a related simple pendulum?  (ix) Describe some common phenomean in which resonance plays at important role?  (ix) A wave has speed 400 m/scc. Find wavelength of a w		How do you check the correctness of an equation?		
(iv) An old saying is that "A chain is only as strong as is weekest link" what analogous statement can you make regarding experimental data used in computation?  (v) What is the minimum value of tension in the string?  (vi) What is the minimum value of tension in the string?  (vii) What is the minimum value of tension in the string?  (viii) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity relative to vefooity, while the object is in air.  (ix) How a rocket is propelled in space?  (x) When a moving car stops quickly, in what direction passengers fall and why?  (xi) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, L <sub>n</sub> = mrr.  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (vi) Explain the term viscosity of the strong of the properties of the propert		What do you and entend about procise and accurate measurement?		
regarding experimental data used in computation?  (vi) Two vectors have unequal magnitude. Can their sum be zero? Explain.  (vii) What is the minimum value of tension in the string?  (viii) How do you subtract two vectors?  (viii) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity relative to vefocity, while the object is in air.  (ix) How a rocket is propelled in space?  (viii) What on moving car stops quickly, in what direction passengers fall and why?  (viii) What or of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (ii) If a body of mass i loke is allowed to fall freely what will be its weight?  (iii) What is meant by moment of inertia? Explain its significance.  (v) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why for doptlest appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (vii) Can we realize an ideal simple pendulum?  (vii) Can we realize an ideal simple pendulum?  (vii) Can we realize an ideal simple pendulum?  (vii) Explain why sound travels fister in warm air than in cold air?  (vii) Explain why sound travels fister in warm air than in cold air?  (viii) Can way six parts.  (viii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (vii) What features do longitudinal waves have in common with transverse waves?  (viii) Can we seperimen? Can fringes dishpear?  (vii) Can be objected with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (vii) What is obtained with reflected light?  (vii) Can the mechanical energy be converted into hest energy? If so give an example.  (vii) Can the mechanical energy be converted into hest energy? If so give an example.  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into hest energy? If		what do you understand about precise and accurate measurement:		
(vi) What is the minimum value of tension in the string?   What is the minimum value of tension in the string?   What is the minimum value of tension in the string?   What is the minimum value of tension in the string?   What is the minimum value of tension in the string?   What is the minimum value of tension in the string?   What is rocket is propelled in space?  What is the nethod of fermentation?  What is the method of fermentation?  Now that orbital angular momentum, \( L_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{{{{{	(10)	regarding experimental data used in computation?		
(vii) How do you subtract two vectors?  (viii) How do you subtract two vectors?  (viii) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity relative to velocity, while the object is in al.  (xi) How a rocket is propelled in space?  (xi) What is the method of fermentation?  (xii) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (ii) If a body of mass 10kg is allowed to fall freely what will be its weight?  (iii) What is meant by moment of inertia? Explain its significance.  (v) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (xi) Describe some common phenomena in which resonance plays an important role?  (xi) A wave has spead 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in gold air?  (xii) What features do longitudinal waves have in common with transverse waves?  (4) Attempt any six parts.  (i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (vi) What is the function of run table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) What is Optical fibre? Wite its types.  (vi) What is the function of run table in the spectrometer?  (vii) Can the mechanical energy be converted into heat energy? If so give an example.  (x) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  She are an and apparent weight and discuss when apparent weight indifferences, decreases and be	(10)	Two vectors have unequal magnitude. Can their sum be zero? Explain		
(viii) How do you subtract two vectors?  (viii) An object is thrown vertically unward. Discuss the sign of acceleration due to gravity relative to vefocity, while the object is in air.  (ix) How a rocket is propelled in space?  (x) What a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xi) What so tof energy is in: (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, \( \begin{align*}{c} \end{align*} = mv \).  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) What is second pendulum also write its length, time period and frequency?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (x) Explain why sound travels faster in warm air than in cold air?  (x) Explain why sound travels faster in warm air than in cold air?  (xi) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (a) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappea?  (ii) How interference produced in their film?  (iii) How interference produced in their film?  (iii) What is Optical fibre? Write its types.  (vi) What is Optical fibre? Write its types.  (vi) State second law of thurn table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) How memory is the projection of vector \( \hat{A} = 2 \hat{A} \hat{B} + \hat{A} A		What is the minimum value of tension in the string?		
(viii) How do you subtract two vectors?  (viii) An object is thrown vertically unward. Discuss the sign of acceleration due to gravity relative to vefocity, while the object is in air.  (ix) How a rocket is propelled in space?  (x) What a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xi) What so tof energy is in: (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, \( \begin{align*}{c} \end{align*} = mv \).  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) What is second pendulum also write its length, time period and frequency?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (x) Explain why sound travels faster in warm air than in cold air?  (x) Explain why sound travels faster in warm air than in cold air?  (xi) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (a) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappea?  (ii) How interference produced in their film?  (iii) How interference produced in their film?  (iii) What is Optical fibre? Write its types.  (vi) What is Optical fibre? Write its types.  (vi) State second law of thurn table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) How memory is the projection of vector \( \hat{A} = 2 \hat{A} \hat{B} + \hat{A} A	(41)	what is the midmiddin varies of tension in the string.		
(viii) How do you subtract two vectors?  (viii) An object is thrown vertically unward. Discuss the sign of acceleration due to gravity relative to vefocity, while the object is in air.  (ix) How a rocket is propelled in space?  (x) What a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xi) What so tof energy is in: (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, \( \begin{align*}{c} \end{align*} = mv \).  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) What is second pendulum also write its length, time period and frequency?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (x) Explain why sound travels faster in warm air than in cold air?  (x) Explain why sound travels faster in warm air than in cold air?  (xi) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (a) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappea?  (ii) How interference produced in their film?  (iii) How interference produced in their film?  (iii) What is Optical fibre? Write its types.  (vi) What is Optical fibre? Write its types.  (vi) State second law of thurn table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) What is the function of run table in the spectrometer?  (vi) How memory is the projection of vector \( \hat{A} = 2 \hat{A} \hat{B} + \hat{A} A		Pictude		
while the object is in air.  (ix) How a rocket is propelled in space?  (x) When a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xii) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, L <sub>n</sub> = mvr.  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (vi) Why does a diver change his body position before and after diving in the pool?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomena in which resonance plays an important role?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) Could you obtain Newton's sings with rransmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vii) Can be mechanical energy be converted into heat energy? If so give an example.  (ix) A thermps any three questions.  SECTION-II  NOTE: Attempt any three questions is terms of entropy.  (viii) Can be mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  Note: Attempt any three questions.  Security and		<b>↓</b>		
while the object is in air.  (ix) How a rocket is propelled in space?  (x) When a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xii) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, L <sub>n</sub> = mvr.  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (vi) Why does a diver change his body position before and after diving in the pool?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomena in which resonance plays an important role?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) Could you obtain Newton's sings with rransmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vii) Can be mechanical energy be converted into heat energy? If so give an example.  (ix) A thermps any three questions.  SECTION-II  NOTE: Attempt any three questions is terms of entropy.  (viii) Can be mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  Note: Attempt any three questions.  Security and	(vii)	How do you subtract two vectors?		
while the object is in air.  (ix) How a rocket is propelled in space?  (x) When a moving car stops quickly, in what direction passengers fall and why?  (xi) What is the method of fermentation?  (xii) What sort of energy is in: (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (ii) If a body of mass 10kg is allowed to fall freely what will be its weight?  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why fog droplets appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (vii) What is sufficient of the wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (vii) How interference produced in their film?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light? Write its types.  (v) What is the function of turn table in the spectrometer?  (		An object is thrown vertically upward. Discuss the sign of acceleration due to gravity relative to velocity,		
(ix)   How a rocket is propelled in space?  (x)   What is the method of fermentation?  (xi)   What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, L <sub>n</sub> = mur.  (iii) What is meant by moment of inertia? Explain its significance.  (iv)   Why does a diver change his body position before and after diving in the pool?  (iv)   Why does a diver change his body position before and after diving in the pool?  (iv)   Explain the term viscosity.  (iv)   Why fog droplets appear to be suspended in air?  (vii)   What is second pendulum also write its length, time period and frequency?  (viii)   Can we realize an ideal simple pendulum?  (ix)   Describe some common phenomena in which resonance plays an important role?  (x)   A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi)   Explain why sound travels faster in warm air than in cold air?  (xii)   What features do longitudinal waves have in common thransverse waves?  4. Attempt any six parts.  (i)   How interference produced in their film?  (iii)   Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv)   What is Optical films?   What is Optical films? White is types.  (v)   What is optical films? Write its types.  (v)   What is optical films? Write its types.  (v)   What is the function of turn table in the spectrometer?  (vi)   What is optical films? Write its types.  (vi)   What is the method of turn table in the spectrometer?  (vii)   Could you obtain Newton's rings with transmitted light? If yes, would the appearance of the moon be changed by covering half of the objective lens?  (vii)   What is optical films? Write its types.  (v)   What is the function of turn table in the spectrometer?  (vii)   Could you obtain Newton's rings with transmitted light? If yes, would the appea	(,,,,,			
(xi) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  8 × 2 = 16  (ii) If a body of mass 10kg is allowed to fall freely what will be its weight?  (iii) What is ment by moment of inertia? Patalain its significance.  (iv) What is meant by moment of inertia? Patalain its significance.  (iv) What is meant by moment of inertia? Patalain its significance.  (iv) What is meant by moment of inertia? Patalain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (vi) Explain the term viscosity.  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Explain why sound travels faster in warm air than in cold air?  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference tringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their full?  (iii) Could you obtain Newton's cines with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is the function of turn table in the spectrometer?  (vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  SECTION-II  NOTE: Attempt any three questions.  SECTION-II  A the mechanical energy be converted into heat energy? If so give an example.  (ix) If a person was looking through a telescope at the full moon, how would the appearance of the milk rise?  SECTION-II  NOT	(ix)			
(xi) What is the method of fermentation?  (xii) What sort of energy is in (a) compressed spring (b) moving car (c) water in a high dam?  3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) Show that orbital angular momentum, $L_0 = mv$ .  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why fog droplets appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomena in which resonance plays an important role?  (x) A wave has speed 40m/sce. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference tringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their fulm?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (xi) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile of light.  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^$		When a moving car stops quickly, in what direction passengers fall and why?		
3. Attempt any eight parts.  (i) If a body of mass 10kg is allowed to fall freely what will be its weight?  (ii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why fog droplets appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomena in which resonance plays an important role?  (x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference tringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their film?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is Optical fibre? Write its types.  (vi) What is Coptical fibre? Write its types.  (vii) State second law of thermodynamics in terms of entropy.  (viii) Could wrome from the projective lens?  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (x) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile of interconversion of PE and KE?  5.(a) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C		What is the method of fermentation?		
(ii) If a body of mass 10kg is allowed to fall freely what will be its weight?  (iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why fog droplets appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (x) Explain why sound travels faster in warm air than in cold air?  (x) Explain why sound travels faster in warm air than in cold air?  (xi) Explain why sound travels faster in warm air than in cold air?  (xi) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their filin?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of furn table in the spectrometer?  (vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (viii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (viii) Attermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  6(a) How would you optary step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.  3 Security of the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3 Find the temperature at which the velocity of sound in air is two times its vel				
(iii) What is meant by moment of inertia? Explain its significance.  (iv) Why does a diver change his body position before and after diving in the pool?  (v) Explain the term viscosity.  (vi) Why fog droplets appear to be suspended in air?  (vii) What is second pendulum also write its length, time period and frequency?  (viii) Can we realize an ideal simple pendulum?  (ix) Describe some common phenomena in which resonance plays an important role?  (x) A weak has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.  (xi) Explain why sound travels faster in warm air than in cold air?  (xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference tringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their film?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) If a person was fooking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight)  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  3 Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3 Ge.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find	3. Atı	empt any eight parts.		
<ul> <li>(iii) What is meant by moment of inertia? Explain its significance.</li> <li>(iv) Why does a diver change his body position before and after diving in the pool?</li> <li>(v) Explain the term viscosity.</li> <li>(vi) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(vii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10° C.</li> <li>5 Find the projection of vector A = 2î - 8ĵ + k̂ in the direction of vector B = 3î - 4ĵ - 12k̂</li> <li>3 Find the temperature at which</li></ul>	(i)	If a body of mass 10kg is allowed to fall freely what will be its weight?		
<ul> <li>(iv) Why does a diver change his body position before and after diving in the pool?</li> <li>(v) Explain the term viscosity.</li> <li>(vi) Why fog droplets appear to be suspended in air?</li> <li>(viii) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/scc. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thormos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile of iii) Time of flight</li> <li>(b) Find the projection of vector \$\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.</li> <li>(a) Define real and apparent weight and discuss when apparent weight increases, de</li></ul>	(ii)	Show that orbital angular momentum, $L_a = mvr$ .		
<ul> <li>(iv) Why does a diver change his body position before and after diving in the pool?</li> <li>(v) Explain the term viscosity.</li> <li>(vi) Why fog droplets appear to be suspended in air?</li> <li>(viii) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/scc. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's trings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thormos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile of iii) Time of flight</li> <li>(b) Find the projection of vector \$\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.</li> <li>(a) Define real and apparent weight and discuss when apparent weight increases, d</li></ul>	(iii)	What is meant by moment of inertia? Explain its significance.		
<ul> <li>(vi) Explain the term viscosity.</li> <li>(vii) Why fog droplets appear to be suspended in air?</li> <li>(viii) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>6 × 2 = 12</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>SECTION-II</li> <li>SESCION-II</li> <li>SESPaim what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the projection of vector \$\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>5</li> <li>6(a) How would you portray step by step guide for interc</li></ul>				
<ul> <li>(vi) What is second pendulum also write its length, time period and frequency?</li> <li>(vii) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/scc. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts. 6 × 2 = 12</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the projection of vector \$\bar{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\bar{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>(b) Find the projection of vector \$\bar{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\bar{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>(ii) Time of flight</li> <li>(b) An 8.0kg body executes S.H.M wit</li></ul>				
<ul> <li>(vii) What is second pendulum also write its length, time period and frequency?</li> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) How interference produced in their film?</li> <li>(iii) What is Optical fibre? Write its types.</li> <li>(v) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the projection of vector \$\bar{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\bar{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>3</li> <li>6.(a) How would you portray step by step guide for interconversion of PE and KE?</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10° C.</li> <li>7.(a) Define real and apparent weight and discuss when ap</li></ul>				
<ul> <li>(viii) Can we realize an ideal simple pendulum?</li> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>6 × 2 = 12</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the projection of vector Ā = 2î - 8ĵ + k̂ in the direction of vector B = 3î - 4ĵ - 12k̂</li> <li>3</li> <li>6.(a) How would you portray step by step guide for interconversion of PE and KE?</li> <li>5</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.</li> <li>3</li> <li>6.(a) How would you executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 10cm.</li></ul>		What is second pendulum also write its length, time period and frequency?		
<ul> <li>(ix) Describe some common phenomena in which resonance plays an important role?</li> <li>(x) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xi) Explain why sound travels faster in warm air than in cold air?</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts.</li> <li>6 × 2 = 12</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?</li> <li>SECTION-II</li> <li>NOTE: Attempt any three questions.</li> <li>3 × 8 = 24</li> <li>5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>(b) Find the projection of vector \$\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>3 changes and paparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.</li> <li>(b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm</li> <li>(b) Show that the ra</li></ul>		Can we realize an ideal simple pendulum?		
<ul> <li>(xi) A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.</li> <li>(xii) What features do longitudinal waves have in common with transverse waves?</li> <li>4. Attempt any six parts. 6 x 2 = 12</li> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is Optical fibre? Write its types.</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thormos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II</li> <li>NOTE: Attempt any three questions. 3 x 8 = 24</li> <li>(ii) Time of flight</li> <li>(b) Find the projection of vector A = 2î - 8ĵ + k̂ in the direction of vector B = 3î - 4ĵ - 12k̂</li> <li>(b) Find the projection of vector A = 2î - 8ĵ + k̂ in the direction of vector B = 3î - 4ĵ - 12k̂</li> <li>(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.</li> <li>(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.</li> <li>(b) A 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm</li> <li>8.(a) Bernoull'is equation represents the conservation of energy in fluid dynamics. Discuss it.</li> <li>5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inver</li></ul>		Describe some common phenomena in which resonance plays an important role?		
(xii) What features do longitudinal waves have in common with transverse waves?  4. Attempt any six parts.  (i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?  (ii) How interference produced in their film?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  3  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to fi	(x)	A wave has speed 400 m/sec. Find wavelength of a wave if frequency is 2 kHz.		
<ul> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is Optical fibre? Write its types.</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(viii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  Find the projection of vector  Ā = 2î - 8ĵ + k̂ in the direction of vector  B = 3î - 4ĵ - 12k 3  3 How would you portray step by step guide for interconversion of PE and KE?  5.(a) How would you portray step by step guide for interconversion of PE and KE?  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment perfor</li></ul>	(xi)	Explain why sound travels faster in warm air than in cold air?		
<ul> <li>(i) How is the distance between interference fringes affected by the separation between the slits of Young's experiment? Can fringes disappear?</li> <li>(ii) How interference produced in their film?</li> <li>(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?</li> <li>(iv) What is Optical fibre? Write its types.</li> <li>(v) What is the function of turn table in the spectrometer?</li> <li>(vi) What is the function of turn table in the spectrometer?</li> <li>(vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?</li> <li>(viii) State second law of thermodynamics in terms of entropy.</li> <li>(viii) Can the mechanical energy be converted into heat energy? If so give an example.</li> <li>(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  SECTION-II  SECTION-II  NOTE: Attempt any three questions?  SECTION-II  Obering the projection of vector \$\overline{A} = 2\hat{l} - 8\hat{l} + \hat{k}\$ in the direction of vector \$\overline{B} = 3\hat{l} - 4\hat{l} - 12\hat{k}\$  How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at \$10^{\infty}C\$.  (c) Find the temperature at which the velocity of sound in air is two times its velocity at \$10^{\infty}C\$.  (d) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  S.(a) Bernoulli's equation represents t</li></ul>				
Young's experiment? Can fringes disappear?  (ii) How interference produced in their film?  (iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incid	4. Att	compt any six parts:		
(ii) How interference produced in their film?  Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) What is the function of turn table in the spectrometer?  (vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (viii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE? 5  Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ . 3  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it. 5  Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelengt	(i)			
(iii) Could you obtain Newton's rings with transmitted light? If yes, would be pattern be different from that obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  3  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can b				
obtained with reflected light?  (iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) What is the function of turn table in the spectrometer?  (vii) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  3  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		How interference produced in their tilm?		
(iv) What is Optical fibre? Write its types.  (v) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(111)			
(v) What is the function of turn table in the spectrometer?  (vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  SECTION-II  Seplain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5  Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(: )			
(vi) If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by covering half of the objective lens?  (vii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?				
changed by covering half of the objective lens?  (viii) State second law of thermodynamics in terms of entropy.  (viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  SECTION-II  SECTION-II  (ii) Time of flight  (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  5 Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5 Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		What is the function of turn table in the spectrometer:		
(viii)State second law of thermodynamics in terms of entropy.(viii)Can the mechanical energy be converted into heat energy? If so give an example.(ix)A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?SECTION-IINOTE: Attempt any three questions. $3 \times 8 = 24$ 5.(a)Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight5(b)Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 36.(a)How would you portray step by step guide for interconversion of PE and KE?5(b)Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .37.(a)Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.5(b)An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm38.(a)Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.5(b)Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.59.(a)Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.5(b)Light of wavelength 450nm is incident on a diffraction grating, on which 5000	(VI)	changed by covering half of the chiestive lens?		
(viii) Can the mechanical energy be converted into heat energy? If so give an example.  (ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) As 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(vii)			
(ix) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?  SECTION-II  NOTE: Attempt any three questions.  3 × 8 = 24  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		Can the mechanical energy be converted into heat energy? If so give an example.		
NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3.  6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  3.  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  5. Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		A thermos flask containing milk as a system is shaken rapidly. Does the temperature of the milk rise?		
NOTE: Attempt any three questions.  5.(a) Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		SECTION-II		
<ul> <li>Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile (ii) Time of flight</li> <li>Find the projection of vector \$\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}\$ in the direction of vector \$\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}\$</li> <li>How would you portray step by step guide for interconversion of PE and KE?</li> <li>Find the temperature at which the velocity of sound in air is two times its velocity at \$10\circ C\$.</li> <li>Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.</li> <li>An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm</li> <li>Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.</li> <li>Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.</li> <li>Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.</li> <li>Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?</li> </ul>	NOTE	Attends any three duestions.		
(ii) Time of flight  (b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 3  6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		Explain what is meant by projectile motion? Describe the expression for (i) Height of the projectile 5		
(b) Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ 6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at $10^{\circ}C$ .  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	. /	(ii) Time of flight		
6.(a) How would you portray step by step guide for interconversion of PE and KE?  (b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(b)	Find the projection of vector $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$ in the direction of vector $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$		
(b) Find the temperature at which the velocity of sound in air is two times its velocity at 10°C.  7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	6 (0)	How would you portray step by step guide for interconversion of PE and KE?		
7.(a) Define real and apparent weight and discuss when apparent weight increases, decreases and becomes  zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		Tiow would you pointay step by step guide for mercontended		
zero during vertical motion.  (b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		Prind the temperature at which the velocity of sound in an is two times its velocity at 10°0.		
(b) An 8.0kg body executes S.H.M with amplitude 30cm. The restoring force is 60N. When the displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	/.(a)	Define real and apparent weight and discuss when apparent weight mereases, according		
displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm  8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(b)	An 8 Oka body executes S.H.M. with amplitude 30cm. The restoring force is 60N. When the		
8.(a) Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.  (b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(0)	displacement is 30cm. Find (i) period (ii) speed when the displacement is 12cm		
(b) Show that the ratio of the root mean square speeds of molecules of two different gases at a certain temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	8 (a)	Bernoulli's equation represents the conservation of energy in fluid dynamics. Discuss it.		
temperature is equal to the square root of the inverse ratio of their masses.  9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?		Show that the ratio of the root mean square speeds of molecules of two different gases at a certain 3		
9.(a) Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	(-)	temperature is equal to the square root of the inverse ratio of their masses.		
light reduced in other materials than vacuum.  (b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have  3 been ruled. How many orders of spectra can be observed on either side of the direct beam?	9.(a)	Describe the experiment performed by Michelson to find the speed of light. Also discuss the speed of		
(b) Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have been ruled. How many orders of spectra can be observed on either side of the direct beam?	. ,	light reduced in other materials than vacuum.		
been ruled. How many orders of spectra can be observed on either side of the direct beam?	(b)	Light of wavelength 450nm is incident on a diffraction grating, on which 5000 lines per centimeter have		
		been ruled. How many orders of spectra can be observed on either side of the direct beam?		

Paper Code 2024 (1<sup>st</sup>-A) Roll No: MTN-2-2 **INTERMEDIATE PART-I (11th Class)** 

Number: 2478 **GROUP-II PHYSICS** PAPER-I **OBJECTIVE MAXIMUM MARKS: 17 TIME ALLOWED: 20 Minutes** You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. S.# **QUESTIONS** В D A A fixed mass of an ideal gas in a cylinder Heat is K.E. of the P.E of the No work is is compressed isothermally. Which is true gas increases gas increases done on the dissipated statement? from the gas system 3 Number of significant zeroes in 3.50070 2 No significant zero 8.2 8.13 If we add the numbers 2.7543, 4.10, 1.273, 8.1273 8.127 3 the rounded off answer will be:  $A \tan \theta$ A  $A\sin\theta$  $A\cos\theta$ If vector  $\vec{A}$  makes an angle  $\theta$  with Y-axis, then its Y-component will be: 5 2 1 The magnitude of  $\vec{A} = \cos\theta \hat{i} + \sin\theta \hat{j}$  is:  $\sqrt{\cos\theta + \sin\theta}$  $\sqrt{1+\cos^2\theta}$ A body moves in a circle of radius r. The  $\cdot \pi r$ Zero 6  $2\pi r$ displacement covered in one rotation is: A stone is dropped from the top of a tower. 19 m 40 m 19.6 m 9.8 m It takes 2s to reach the ground. The height of the tower is: Two masses M and 4M are moving with 4:1 14. 2.  $\sqrt{2}:1$ same K.E. The ratio of their linear 1:16momenta is:  $\vec{v} = \vec{w} \times \vec{r}$  $\vec{v} = \vec{r} \times \vec{w}$  $\vec{w} = \vec{v} \times \vec{r}$  $\vec{v} = \vec{w} \cdot \vec{r}$ 9 Which is a correct relation? T = mT = m10 A body of mass m is moving in a vertical circle of radius r, tied with a string.  $(v^2 - gr)$  $(v^2 + gr)$ The tension at the lowest point is: 122.22 143.33 123.33 133.33 11  $N/m^2$ 1 torr =What will be the displacement of a particle 12  $\frac{3}{4}x_o$  $\frac{\sqrt{3}}{2}x_o$ in SHM when its velocity is half.  $\sqrt{2}x_{\circ}$ the maximum velocity (amplitude =  $x_0$ ): Damped Torsional Simple Driven A physical system under going forced 13 oscillator harmonic harmonic harmonic vibrations in known as: oscillator oscillator oscillator The frequency of sound emitted from a 120 Hz 750 Hz 600 Hz 300 Hz source in water is 600 Hz. If speed of sound in water and air is 1500 m/s and 300 m/s respectively, then frequency of sound heard above the water surface is: Which monochromatic light will produce 15 Yellow Green Blue Red maximum orders of spectra using a diffraction grating? Dispersion Diffraction Interference Multimode step index fibre is useful for Polarization 16 effects effects effects effects short distance to carry white light due to:

In PV graph of isothermal and adiabatic

work under the curve, than isothermal

process, the adiabatic curve has

curve,:

18(Obj)(公公公公公)-2024(1st-A)-30000 (MULTAN)

Equal

Smaller

Greater

Negative

work

TIME	ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68		
NOTE	: Write same question number an	l its parts number on answer book	, as given in the question paper.		
2 14	amut any sight narts	SECTION-I	8 × 2 = 16		
(i)	empt any eight parts.  Differentiate between random error and	systematic error.			
(ii)	What is principle of homogeneity?				
(iii)	Name several repetitive phenomenon occurring in nature which could serve as reasonable time standards?				
(iv)	Give the drawbacks to use the period of				
(v) (vi)	Why the cross product is not commutation. The vector sum of three vectors gives a	zero resultant. What can be the orientati	on of the vectors?		
(vii)	If one of the rectangular components of	a vector is not zero, can its magnitude be	e zero? Explain.		
(viii)	Can the velocity of an object reverse dir	ection when acceleration is constant? If	so give an example.		
(ix)	Calculate the force due to water when it		relocity changes		
	from 5ms <sup>-1</sup> to zero on striking the wall? An object is thrown vertically upward.	Viceuse the sign of acceleration due to m	ravity relative to velocity		
(x)	while the object is in air?	Discuss the sign of acceptation due to g	ravity, relative to velocity,		
(xi)	Derive a relation between power and vel	ocity.			
(xii)	A person holds a bag of groceries while	standing still, talking to a friend. A car	is standing still while its engine is		
3 A++	running. From stand point of work, how empt any eight parts.	are these two situations similar?	8 × 2 = 16		
(i)	Show that orbital angular momentum $L$	= MJil.			
(ii) (iii)	What is meant by moment of inertia? Explain its significance.				
(iv)	11070 till 1 total 0110 .				
(v)	What are the factors upon which drag fo	rce acting upon a small sphere of radius	"r" moving through a liquid, depend?		
(vi)	A chimney works best when it is tall. W				
(vii)	Does frequency depends on amplitude for	or harmonic oscillators?			
(viii)	The equation for SHM of an object is gi	ven by $X = 0.25 \cos \left(\frac{\pi}{2}\right)t$ . What will be of	displacement after 2 seconds?		
(:-)	What is Hook's law? Write its mathematic				
(ix) (x)	Explain why sound travels faster in warr	n air than in cold air.			
(xi)	How will you differentiate between long	itudinal and transverse wave?			
(xii)	What is period of 300 cycles per second	of sound waves?	$6 \times 2 = 12$		
	empt any six parts.  Why interference is necessary to produce	a diffraction nottern? Answer this quest			
(i) (ii)	Explain the term "Optical rotation".				
(iii)	Could you obtain Newton's rings with transmitted light? If yes, would the pattern be different from that				
	obtained with reflected light?				
(iv)	Explain how a convex lens is used as a Explain scattering and absorption as a lo	nagnitier?			
(v) (vi)	If a person was looking through a telescope at the full moon, how would the appearance of the moon be changed by				
	covering half of the chiect lens?				
(vii)	What happens to the temperature of room, when an air conditioner is left running on a table in the middle of the room?				
(viii) (ix)	Is it possible to convert internal energy into mechanical energy? Explain with an example.  Calculate the work done in the given diagram:				
(17)	Calculate the work done in the given an	TP 1			
		(A) 2			
	2 4 6 8 %				
		V → (W3)			
SECTION-II  3 × 8 = 24					
NOTE	: Attempt any three questions.	w would two balls collides elastically in			
5.(a) (b)	what do you know about comsion? Fit	of two vectors are $6\sqrt{3}$ and "6" respec	atively.		
(0)	The magnitude of dot and cross produc	of two vectors are 0 V 3 and 0 respect			
6.(a)	Find the angle between vectors.	We its mathematical expression $U = \frac{-GM}{r}$	<i>1m</i> 5		
0.(4)	Define absolute potential energy. Beri	re its machematical engineering	e when it is closed at one end.		
(b)		ind the frequency of its fundamental not	e when it is closed at one cird.		
	(Speed of sound = $350  \text{ms}^{-1}$ ).	oits are calculated mathematically. Also	calculate its value and its height 5		
7.(a)	from the earth surface				
(b)	from the earth surface.  A spring, whose spring constant is $80.0  Nm^{-1}$ vertically supports a mass of 1.0 kg in the rest position. Find the				
(0)	distance by which the mass must be pulled down, so that on being released, it may pass the mean position with				
8.(a)	State and prove the Bernoulli's equation	n in dynamic fluid; that relates pressure	to fluid speed and height. 5		
(b)	336J of energy is required to melt 1g o	fice at $0^{\circ}C$ . What is the change in entr	opy of 30g of water at 0 C		
	as it is changed to ice at 0°C by a refr	gerator. ibe its construction and working. Also	calculate its magnifying power. 5		
9.(a)	What is compound microscope? Described A light is incident normally on a gratin	g which has 2500 lines per centimeter.	Compute the wavelength of a 3		
(b)	spectral line for which the deviation in	second order is 15.0°.			
L	spectral title for which the deviation in		18-2024(1 <sup>st</sup> -A)-30000 (MULTAN		