

**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-I (NEW SCHEME)**

TIME ALLOWED: 2.40 Hours

**SUBJECTIVE**

MAXIMUM MARKS: 68

**NOTE: - Write same question number and its part number on answer book,  
as given in the question paper.**

**SECTION-I****2. Attempt any eight parts.****8 × 2 = 16**

- (i) How many nanoseconds are there in 1 year?
- (ii) Name several repetitive phenomenon occurring in nature which could serve as reasonable time standards.
- (iii) Define Precision and Accuracy.
- (iv) Write the dimensions of (i) Work (ii) Torque
- (v) Is it possible to add a vector quantity to a scalar quantity? Explain.
- (vi) Suppose the sides of a closed polygon represent vector arranged head to tail. What is the sum of these vectors?
- (vii) If one of the rectangular components of a vector is not zero, can its magnitude be zero? Explain.
- (viii) Motion with constant velocity is a special case of motion with constant acceleration. Is this statement true? Explain.
- (ix) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity, relative to velocity, while the object is in air.
- (x) Explain the circumstances in which the velocity  $\vec{v}$  and acceleration  $\vec{a}$  of a car are  
(i) Parallel (ii) Anti-parallel
- (xi) Explain the term viscosity.
- (xii) A person is standing near a fast moving train. Is there any danger that he will fall towards it?

**3. Attempt any eight parts.****8 × 2 = 16**

- (i) Calculate the work done in kilo joules in lifting a mass of 10 kg (at a steady velocity) through a vertical height of 10 m.
- (ii) Define "Joule".
- (iii) Write the formula for escape velocity. (Do not derive it). Calculate the value of escape velocity on earth.
- (iv) Prove that  $S = r\theta$
- (v) Explain why an object, orbiting the Earth is said to be freely falling. Use your explanation to point out why objects appear weightless under certain circumstances.
- (vi) A disc and a hoop start moving down from the top of an inclined plane at the same time. Which one will be moving faster on reaching the bottom?
- (vii) What is Sharpness of Resonance?
- (viii) If a mass spring system is hung vertically and set into oscillations, why does the motion eventually stop?
- (ix) Explain the relation between total energy, potential energy and kinetic energy for a body oscillating with SHM.
- (x) Explain effect of density of air on the speed of sound.
- (xi) What is the Principle of Super Position of Waves?
- (xii) A wave is produced along a stretched string but some of its particles permanently show zero displacement. What type of wave is it?



**4. Attempt any six parts.****6 × 2 = 12**

- (i) State two parts of Huygen's principle. 1 + 1 = 2
- (ii) How the distance between interference fringes will be affected if the distance between the slits in Young's experiment is doubled?
- (iii) How would you distinguish between un-polarized and plane-polarized lights?
- (iv) Why adiabat is steeper than isotherm? 1 + 1 = 2
- (v) Draw the ray diagram of compound microscope.
- (vi) Differentiate between Multimode Step Index Fibre and Multimode Graded Index Fibre.
- (vii) Write any two assumptions of Kinetic Theory of Gases.
- (viii) Derive Boyle's Law from Kinetic Theory of Gases.
- (ix) Explain bicycle pump as an example of first law of thermodynamics.

**SECTION-II****NOTE: - Attempt any three questions.****3 × 8 = 24**

- 5.(a) Explain the addition of two vectors by rectangular components method. 5
- (b) A football is thrown upward with an angle of  $30^\circ$  with respect to the horizontal. To throw a 40 m pass what must be the initial speed of the ball? 3
- 6.(a) Define Gravitational Field. Show that gravitational field is conservative field. 5
- (b) Calculate the angular momentum of a star of mass  $2.0 \times 10^{30} \text{ kg}$  and radius  $7.0 \times 10^5 \text{ km}$ . If it makes one complete rotation about its axis once in 20 days. 3
- 7.(a) Prove that the product of cross sectional area of the pipe and the fluid speed at any point along the pipe is a constant. 5
- (b) 336 J of energy is required to melt 1 g of ice at  $0^\circ \text{C}$ . What is the change in entropy of 30 g of water at  $0^\circ \text{C}$  as it is changed to ice at  $0^\circ \text{C}$  by a refrigerator? 3
- 8.(a) Discuss the Law of Conservation of Energy in Oscillating Mass Spring System along with the graphical representation. 5
- (b) A Church organ consists of pipes, each open at one end, of different lengths. The minimum length is 30 mm and the longest is 4 m. Find the range of frequencies of sound produced, if speed of sound  $v = 340 \text{ m/s}$ . 3
- 9.(a) What is astronomical telescope? Draw ray diagram and derive an expression for its magnification. 5
- (b) In a double slit experiment the 2<sup>nd</sup> order maximum occurs at  $\theta = 0.25^\circ$ . The wavelength is 650 nm. Find the slit separation. 3



**PHYSICS PAPER-I GROUP-I (NEW SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

- (1) In the light of Einstein's famous equation  $E = mc^2$ , the energy for mass of 2 kg is equal to:-  
 (A)  $3 \times 10^8$  joule (B)  $9 \times 10^{16}$  joule (C)  $4 \times 10^{16}$  joule (D)  $18 \times 10^{16}$  joule
- (2) The number of significant figures in 0.00232 are:- (A) 6 (B) 5 (C) 3 (D) 4
- (3) If both components  $R_x$  and  $R_y$  of resultant vector  $\vec{R}$  are negative then angle " $\theta$ " of  $\vec{R}$  along  $x$ -axis will be:-  
 (A)  $\theta = 270^\circ$  (B)  $180^\circ < \theta < 270^\circ$  (C)  $180^\circ > \theta > 270^\circ$  (D)  $\theta \leq 270^\circ$
- (4) The magnitude of  $\hat{A}$  will be:- (A) Zero (B)  $A^2$  (C) 1 (D)  $A$
- (5) If the initial velocity of a projectile becomes doubled. The time of flight will become:-  
 (A) Double (B) Same (C) 3 times (D) 4 times
- (6) For freely falling body, in the presence of force of friction the:-  
 (A) Loss in P.E. = gain in K.E. (B) Loss in P.E. < gain in K.E.  
 (C) Loss in P.E. > gain in K.E. (D) Loss in P.E. = 0
- (7) The ratio of moment of inertia of hoop to the moment of inertia of disc (if their masses and radii are same) is equal to:- (A) 2 (B)  $\frac{1}{2}$  (C) 4 (D)  $\frac{1}{4}$
- (8) Einstein's theory gives us a physical picture of how the:- (A) Body moves  
 (B) Gravity works (C) Moment of inertia produced (D) Weightlessness creates
- (9) The dimensions of  $\rho gh$  has same as that of:-  
 (A) Work (B) Energy (C) Pressure (D) Mass
- (10) Time period of simple pendulum only depends on its:-  
 (A) Mass (B) Amplitude (C) Density (D) Length
- (11) When an observer is moving away from the source with velocity  $U_0$  from a stationary source then relative velocity of the waves and the observer is:-  
 (A)  $V + U_0$  (B)  $V - U_0$  (C)  $\frac{V + U_0}{2}$  (D) Zero
- (12) \_\_\_\_\_ is correct relation.  
 (A)  $\frac{v_t}{v_0} = \frac{\rho_0}{\rho_t}$  (B)  $\frac{v_t}{v_0} = \frac{\rho_t}{\rho_0}$  (C)  $\frac{v_t}{v_0} = \sqrt{\frac{\rho_t}{\rho_0}}$  (D)  $\frac{v_t}{v_0} = \sqrt{\frac{\rho_0}{\rho_t}}$
- (13) A ray of light shows the direction of propagation of light. It is a line which is:-  
 (A) Normal to the wave front (B) Parallel to wave front  
 (C) Opposite to wave front (D) Equal to wave front
- (14) Light waves are:-  
 (A) Longitudinal waves (B) Transverse waves (C) Stationary waves (D) Mechanical waves
- (15) The magnification of a convex lens of focal length 5 cm is equal to:- (A)  $\frac{1}{5}$  (B) 5 (C) 6 (D) 25
- (16) In adiabatic process the first law of thermodynamics becomes:-  
 (A)  $W = -\Delta U$  (B)  $W = Q$  (C)  $Q = \Delta U$  (D)  $W = -Q$
- (17) The change in entropy  $\Delta s$  is equal to:-  
 (A)  $\frac{\Delta Q}{\Delta T}$  (B)  $\frac{\Delta Q}{T}$  (C)  $\frac{\Delta T}{\Delta Q}$  (D)  $\frac{T}{\Delta Q}$



**PHYSICS PAPER-I GROUP-I (NEW SCHEME)**

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- (10) The number of significant figures in 0.00232 are:- (A) 6 (B) 5 (C) 3 (D) 4
- (11) If both components  $R_x$  and  $R_y$  of resultant vector  $\vec{R}$  are negative then angle " $\theta$ " of  $\vec{R}$  along  $x$ -axis will be:-  
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**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-II (NEW SCHEME)**

TIME ALLOWED: 2.40 Hours

**SUBJECTIVE**

MAXIMUM MARKS: 68

**NOTE: - Write same question number and its part number on answer book, as given in the question paper.****SECTION-I****2. Attempt any eight parts.****8 × 2 = 16**

- (i) Check the correctness of the relation  $V = \sqrt{\frac{F \times \ell}{m}}$ , where  $V$  is the speed of transverse wave on a stretched string of tension  $F$ , length  $\ell$  and mass  $m$ .
- (ii) Find the dimensions and hence, the SI unit of Coefficient of viscosity  $\eta$  in the relation of Stoke's Law  $F = 6\pi\eta rV$ .
- (iii) The period of simple pendulum is measured by stop watch. What type of errors are possible in the time period?
- (iv) How many nanoseconds are there in one year?
- (v) If  $\vec{A} + \vec{B} = 0$ , what can you say about the components of the two vectors?
- (vi) Suppose the sides of a closed polygon represent vector arranged head to tail. What is the sum of these vectors?
- (vii) What are Coplanar and Concurrent Forces?
- (viii) Motion with constant velocity is a special case of motion with constant acceleration. Is this statement true? Discuss.
- (ix) Differentiate between Distance and Displacement.
- (x) Explain, how the swing is produced in a fast moving cricket ball?
- (xi) Explain, what do you understand by the term Viscosity?
- (xii) What is Velocity-Time Graph? What does its slope represent?

**3. Attempt any eight parts.****8 × 2 = 16**

- (i) How energy can be obtained from waste products?
- (ii) When a rocket re-enters the atmosphere, its nose cone becomes very hot. Where does this heat energy come from?
- (iii) A 70 kg man runs up a long flight of stairs in 9.8 sec. The vertical height of the stairs is 5 m. Calculate his power in kW.
- (iv) Why does a diver change his body position before diving in the pool?
- (v) What is meant by moment of inertia? Explain its significance.
- (vi) Define and explain Orbital Velocity?
- (vii) Does frequency depend on amplitude for harmonic oscillators?
- (viii) How the resonance is useful for cooking of food?
- (ix) If a mass spring system is hung vertically and set into oscillations, why does the motion eventually stop?
- (x) What is the difference between Constructive and destructive interference?
- (xi) Explain the terms Crest and Trough.
- (xii) How should a sound source move with respect to an observer so that the frequency of its sound does not change?

**4. Attempt any six parts.****6 × 2 = 12**

- (i) What is the usual way to obtain plane wave front from a point source?
- (ii) Write two uses of  $X$  – rays diffraction by crystal.
- (iii) Can visible light produce interference fringes? Explain.

**P.T.O**



- (iv) A convex lens of shorter focal length is preferred in simple microscope. Why?
- (v) Why would it be advantageous to use blue light with a compound microscope?
- (vi) Why is the average velocity of the molecules in a gas zero but the average of the square of velocities is not zero?
- (vii) A thermos flask containing milk as a system is shaken rapidly. Does the temperature of milk rise?
- (viii) What would be the heat lost if internal energy decreases by 10 J and 20 J of work is done on the system simultaneously?
- (ix) What is triple point of water? Define Kelvin (the unit of temperature) in terms of triple point of water.

### SECTION-II

**NOTE: - Attempt any three questions.**

**3 × 8 = 24**

- 5.(a) What is a Projectile Motion? Derive the following equations for projectile:- 5  
 (i) Time of flight (ii) Range of the projectile
- (b) A load of 10 N is suspended from a clothes line. This distorts the line so that it makes an angle of  $15^\circ$  with the horizontal at each end. Find the tension in the clothes line. 3
- 6.(a) What are Geo stationary Satellites? Derive an expression for the radius of Geo stationary Satellites. 5
- (b) How large a force is required to accelerate an electron of mass  $9.1 \times 10^{-31} \text{ kg}$  from rest to a speed of  $2 \times 10^7 \text{ m/s}$  through a distance of 5 cm? 3
- 7.(a) Derive an expression for terminal velocity of a spherical droplet of water falling freely through air. 5
- (b) Estimate the average speed of nitrogen molecules in air under standard conditions of pressure and temperature. 3
- 8.(a) What is the drawback of Newton's formula for the speed of sound and how this was corrected by Laplace? Derive the Laplace's expression for the speed of sound and also find the value of speed of sound by using this expression. 1 + 3 + 1 = 5
- (b) What should be the length of a simple pendulum whose period is 2 seconds at a place where  $g = 9.8 \text{ ms}^{-2}$ ? What is the frequency of such a pendulum? 3
- 9.(a) How compound microscope is formed? Derive an expression for its total magnification. 5
- (b) In a double slit experiment the second order maximum occurs at  $\theta = 0.25^\circ$ . The wavelength is 650 nm. Determine the slit separation. 3



**PHYSICS PAPER-I GROUP-II (NEW SCHEME)**

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Q.No.1

- (1) One light year is equal to:-  
 (A)  $9.5 \times 10^{15} m$  (B)  $9.6 \times 10^{15} m$  (C)  $9.5 \times 10^{-15} m$  (D)  $9.6 \times 10^{-16} m$
- (2) The sum of three numbers, 2.7543, 4.10 and 1.273 up to the correct decimal place is:-  
 (A) 8.12 (B) 8.13 (C) 8.1273 (D) 8.127
- (3) The cross product of a vector  $\vec{A}$  with itself results:-  
 (A)  $\vec{A}$  (B)  $A^2$  (C) Zero (D) Null vector
- (4) A force of 10 N makes an angle of  $30^\circ$  with  $y$ -axis. The magnitude of  $x$ -component will be:-  
 (A) 5 N (B) 8.66 N (C) 10 N (D) Zero
- (5) A force of 10 N acts on a body of mass 5 kg for one second. The change in its momentum will be:-  
 (A)  $10 \text{ kgms}^{-1}$  (B)  $50 \text{ kgms}^{-1}$  (C)  $2 \text{ kgms}^{-1}$  (D)  $20 \text{ kgms}^{-1}$
- (6) \_\_\_\_\_ is the biofuel.  
 (A) Water (B) Petrol (C) Ethanol (D) Oil
- (7) When a body is in circular motion, the angle between linear and angular velocity is:-  
 (A)  $180^\circ$  (B)  $90^\circ$  (C)  $45^\circ$  (D)  $0^\circ$
- (8) The linear velocity of a disc when it reaches the bottom of an inclined plane of height 'h' is:-  
 (A)  $\sqrt{gh}$  (B)  $\sqrt{\frac{4}{3}gh}$  (C)  $\sqrt{\frac{2}{3}gh}$  (D)  $\sqrt{\frac{1}{3}gh}$
- (9) The term  $\frac{1}{2}\rho v^2$  in Bernoulli's equation has the same unit as:-  
 (A) Work (B) Volume (C) Pressure (D) Force
- (10) If 30 waves per second pass through a medium at a speed of  $30 \text{ ms}^{-1}$ , then the wavelength is:-  
 (A) 30 m (B) 15 m (C) 1 m (D) 28 m
- (11) Radar system is an application of:-  
 (A) Interference (B) Beats (C) Stationary waves (D) Doppler's effect
- (12) The example of mechanical waves is:-  
 (A) Water waves (B) Radio waves (C) Infrared waves (D) Ultraviolet waves
- (13) Light entering from air to glass does not give change in its:-  
 (A) Frequency (B) Wavelength (C) Velocity (D) Direction
- (14) The final image formed by a simple microscope is:-  
 (A) Virtual and inverted (B) Virtual and erect (C) Real and erect (D) Real and inverted
- (15) \_\_\_\_\_ will travel faster than others through an optical fibre.  
 (A) Ultraviolet light (B) Visible light (C) Infrared light (D) White light
- (16) The unit of entropy is:-  
 (A)  $JK$  (B)  $K/J$  (C)  $J/K^2$  (D)  $J/K$
- (17) A heat engine operates between the temperatures 1000 K and 400 K. Its efficiency can be equal to:-  
 (A) 50 % (B) 60 % (C) 70 % (D) 100 %



**PHYSICS PAPER-I GROUP-II (NEW SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

**Note:** 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. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) If 30 waves per second pass through a medium at a speed of  $30\text{ms}^{-1}$ , then the wavelength is:-  
 (A) 30 m (B) 15 m (C) 1 m (D) 28 m
- (2) Radar system is an application of:-  
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- (10) The sum of three numbers, 2.7543, 4.10 and 1.273 up to the correct decimal place is:-  
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- (11) The cross product of a vector  $\vec{A}$  with itself results:-  
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- (16) The linear velocity of a disc when it reaches the bottom of an inclined plane of height 'h' is:-  
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**PHYSICS PAPER-I GROUP-II (NEW SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

**Note:** 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. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

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- (1) When a body is in circular motion, the angle between linear and angular velocity is:-  
 (A)  $180^\circ$  (B)  $90^\circ$  (C)  $45^\circ$  (D)  $0^\circ$
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**PHYSICS PAPER-I GROUP-II (NEW SCHEME)**

TIME ALLOWED: 20 Minutes

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**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN**  
**OBJECTIVE KEY FOR INTERMEDIATE ANNUAL/SUPPLY EXAMINATION, 2018**

Name of Subject: PHYSICS (New Scheme) Session: 2017 - 2019

Group: 1st

Group: 2nd

Q. Nos	Paper Code 2471	Paper Code 2473	Paper Code 2475	Paper Code 2477
1	D	D	B	A
2	C	B	C	C
3	B	D	D	A
4	C	A	B	B
5	A	B	D	C
6	C	C	A	D
7	A	A	B	B
8	B	B	C	D
9	C	D	A	A
10	D	C	B	B
11	B	B	D	C
12	D	C	C	A
13	A	A	B	B
14	B	C	C	D
15	C	A	A	C
16	A	B	C	B
17	B	C	A	C
18				
19				
20				

Q. Nos	Paper Code 2472	Paper Code 2474	Paper Code 2476	Paper Code 2478
1	A	C	B	A
2	B	D	B	A
3	D	A	C	C
4	A	A	C	B
5	A	B	D	B
6	C	C	C	C
7	B	D	A	C
8	B	B	B	D
9	C	A	C	A
10	C	B	D	A
11	D	D	B	B
12	A	A	A	C
13	A	A	B	D
14	B	C	D	B
15	C	B	A	A
16	D	B	A	B
17	B	C	C	D
18				
19				
20				

**مرثیہ کیلٹ بابت صحیح سوالیہ پرچہ مارکنگ Key**

ہم نے مضمون PHYSICS پرچہ Theory-I گروپ 1st & 2nd سکیم نئی انٹر سالانہ امتحان 2018 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عمیق چیک کر لیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: \_\_\_\_\_

S.#	Name	Designation	Institution	Mobile No	Signature
1	Prof. Ahsan Muhammad	Principal	Govt. De. Taharian	0300-8390411	
2	Shabbir Ahmad	Asso. Prof.	G. Civil Lines Co. Multan	03017551681	
3	Ali Hussain Gillani	Asso. Prof.	Govt. Emerson College Multan	0300-7381119	
4	MEHR IJAZ AHMAD	SSS	Govt. H.S.S. Qadirpur Ran Multan	0300-6347269	

Re-Checked By ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) معروضی "Key" اور ہدایات کے حوالہ سے عمل طور پر چیک کر لیا ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

S.#	Name	Designation	Institution	Mobile No	Signature
1	Abdul Ghani Arzani	A.P.	Govt. A.H. 95 College Multan	0305-8438895	
2	Kabeem Ullah	A.P.	Govt. College of Science Multan	0301-7400172	
3					



**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-II (OLD SCHEME)**

TIME ALLOWED: 3.10 Hours

**SUBJECTIVE**

MAXIMUM MARKS: 83

**NOTE: - Write same question number and its part number on answer book, as given in the question paper.**

**SECTION-I****Q.No.2 Attempt any eight parts.****8 × 2 = 16**

- (i) How many years are there in 1 second?
- (ii) Show that the famous "Einstein equation"  $E = mc^2$  is dimensionally consistent.
- (iii) Give the drawbacks to use the period of a pendulum as a time standard.
- (iv) What do you mean by Scientific Notation? Give an example.
- (v) If one of the rectangular components of a vector is not zero, can its magnitude be zero? Explain.
- (vi) Two vectors have unequal magnitudes. Can their sum be zero? Explain.
- (vii) Can a body rotate about its centre of gravity under the action of its weight?
- (viii) Define two conditions of equilibrium.
- (ix) Explain the circumstances in which the velocity  $\vec{v}$  and acceleration  $\vec{a}$  of a car are  
(i) parallel (ii) perpendicular to one another
- (x) At what point or points in its path does a projectile have its minimum speed, its maximum speed?
- (xi) Define impulse and show that how it is related to linear momentum?
- (xii) Why fog droplets appear to be suspended in air?

**Q.No.3 Attempt any eight parts.****8 × 2 = 16**

- (i) Define one kilowatt hour and show that 1 kWh = 3.6 MJ.
- (ii) Calculate the work done in kilo joules in lifting a mass of 10 kg (at a steady velocity) through a vertical height of 10 m.
- (iii) An object has 1 J of P.E. Explain what does it mean?
- (iv) Define Angular Momentum and also write its S.I unit.
- (v) Show that orbital angular momentum  $L_o = mvr$
- (vi) When mud flies off the tyre of a moving bicycle, in what direction does it fly? Explain.
- (vii) Name two characteristics of simple harmonic motion.
- (viii) If a mass spring system is hung vertically and set into oscillations, why does the motion eventually stop?
- (ix) Does frequency depend on amplitude for harmonic oscillators?
- (x) Define mechanical waves. Give two examples.
- (xi) Explain why sound travels faster in warm air than in cold air?
- (xii) Explain the terms Node and Antinode.

**Q.No.4 Attempt any six parts.****6 × 2 = 12**

- (i) An oil film spreading over a wet footpath shows colours. Explain how does it happen?
- (ii) How would you manage to get more orders of spectra using a diffraction grating?
- (iii) Distinguish between un-polarized and plane-polarized lights.
- (iv) How the power is lost in optical fibre through dispersion? Explain.
- (v) In simple microscope the focal length of its lens is  $\frac{1}{5}d$  where  $d$  is least distance of distinct vision. Find its magnifying power.
- (vi) What do you mean by resolving power of an instrument?
- (vii) Is it possible to convert internal energy into mechanical energy? Explain with an example.
- (viii) Is it possible to construct a heat engine that will not expel heat into the atmosphere?
- (ix) Give an example of a natural process that involves an increase in entropy.



**SECTION-II****NOTE: - Attempt any three questions of the following:-****3 × 8 = 24**

- 5.(a) What are the rectangular components of a vector?  
Find a vector, its magnitudes and direction by its rectangular components. 5
- (b) A football is thrown upwards with an angle of  $30^\circ$  with respect to the horizontal.  
To throw a 40.0 m pass what must be the initial speed of the ball? 3
- 6.(a) Define centripetal force and prove that  $F_c = mr\omega^2$ . 5
- (b) Ten bricks, each 6.0 cm thick and mass 1.5 kg, lie flat on a table.  
How much work is required to stack them one on the top of another? 3
- 7.(a) Define molar specific heat at constant volume and molar specific heat at constant pressure.  
Also prove that  $C_p - C_v = R$  5
- (b) Water flows through a hose, whose internal diameter is 1 cm at a speed of  $1\text{ ms}^{-1}$ .  
What should be the diameter of the nozzle if the water is to emerge at  $21\text{ ms}^{-1}$ . 3
- 8.(a) What is simple pendulum? Derive a relation for its time period. 5
- (b) An organ pipe has a length of 50 cm. Find the frequency of its fundamental note and the next harmonic when it is open at both ends. 3
- 9.(a) Explain the principle, construction and working of Michelson's interferometer. Give its uses also. 5
- (b) An astronomical telescope having magnifying power of 5 consist of two thin lenses 24 cm apart. Find the focal lengths of the lenses. 3

**SECTION-III (PRACTICAL)****10. (A) Write answers of any four parts.****4 × 2 = 8**

- (i) Define vernier constant of vernier callipers. Find the vernier constant if the smallest division on main scale is 1 mm and total division on vernier scale is 20.
- (ii) Design a table of observation/calculation to find the weight of a body by method of vector addition.
- (iii) What are the sources of error in the experiment to determine the moment of inertia of fly wheel?
- (iv) Why does the paper rider fly off of a fixed length of wire of sonometer?
- (v) What is the end correction in resonance tube experiment and how it is determined?
- (vi) Does the critical angle of a transparent material varies with the colour of light?
- (vii) Design a table of observation/calculation to determine the focal length of convex lens by displacement method.
- (viii) What precautions should be observed in the experiment, if time period is independent of the amplitude of simple pendulum?
- (B) Write down the brief procedure to verify that time period is independent of the mass of bob of simple pendulum. 3

**OR**

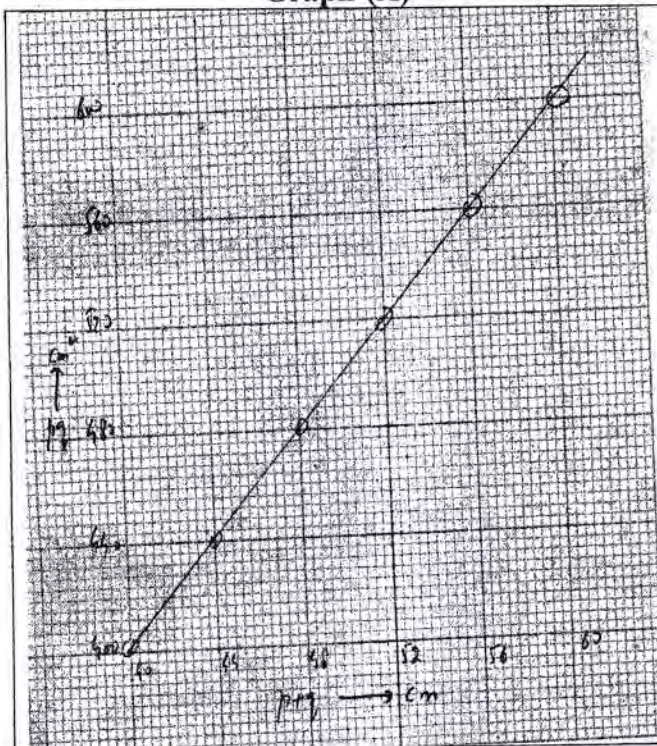
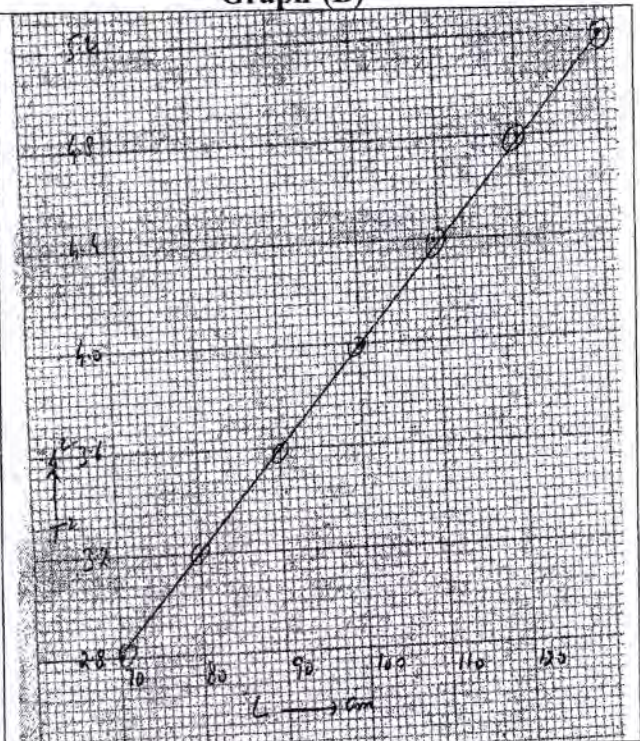
Write down the brief procedure to determine experimentally the focal length of convex lens by displacement method.

**(C) Answer the following questions on the basis of graph drawn below:-****2 × 2 = 4**

- (A) (i) What do you conclude from the graph? (ii) Find the focal length of the lens from the graph.

**OR**

- (B) (i) What is the relation between  $L$  &  $T^2$  (ii) Find the value of 'g' from the graph.

**Graph-(A)****Graph-(B)**



**PHYSICS PAPER-I GROUP-II (OLD SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

- (1) Unit of power in terms of base unit is:-  
 (A)  $\text{Kgm}^2\text{s}^{-2}$  (B)  $\text{Kgm}^2\text{s}^{-3}$  (C)  $\text{Kgms}^{-2}$  (D)  $\text{Kgm}^{-1}\text{s}^{-2}$
- (2) The direction of a vector in space is specified by:-  
 (A) 1 angle (B) 2 angles (C) 3 angles (D) 4 angles
- (3) For a body moving with uniform acceleration, its average acceleration is:-  
 (A) Equal to zero (B) Positive (C) Negative (D) Equal to instantaneous acceleration
- (4) In projectile motion horizontal component of acceleration is:-  
 (A) Positive (B) Negative (C) Equal to  $9.8\text{ms}^{-2}$  (D) Equal to zero
- (5) \_\_\_\_\_ is non-conservative.  
 (A) The Electric force (B) The Frictional force (C) The Gravitational force (D) The Spring force
- (6) The real weight and apparent weight of an object will be equal to each other when body is moving with:-  
 (A) Increasing velocity (B) Decreasing velocity (C) Constant velocity (D) increasing acceleration
- (7) An INTELSAT VI satellite operates at frequencies of:-  
 (A) 4, 6, 11 and 14 GHz (B) 4, 6, 11 and 14 MHz  
 (C) 4, 6, 11 and 14 KHz (D) 4, 6, 11 and 18 GHz
- (8) \_\_\_\_\_ is most viscous at  $30^\circ\text{C}$ .  
 (A) Water (B) Air (C) Glycerin (D) Ethanol
- (9) For initial phase  $\phi = 90^\circ$ , instantaneous displacement ( $X$ ) can be expressed as:-  
 (A)  $X = X_0\sin\omega t$  (B)  $X = X_0\cos\omega t$  (C)  $X = -X_0\sin\omega t$  (D)  $X = -X_0\cos\omega t$
- (10) Time period of simple pendulum have maximum value for the place:-  
 (A) Karachi (B) Lahore (C) Islamabad (D) Murree
- (11) Increase in speed of sound in a gas due to  $1^\circ\text{C}$  rise in temperature is equal to:-  
 (A)  $61\text{ms}^{-1}$  (B)  $61\text{kms}^{-1}$  (C)  $0.61\text{kms}^{-1}$  (D)  $0.61\text{ms}^{-1}$
- (12) Radar speed trap uses:-  
 (A) Microwaves (B) Radio waves (C) Ultrasound waves (D) X-rays
- (13) A diffraction grating has 5000 lines per centimeter, its grating element is:-  
 (A) 500000 cm (B) 5000 cm (C)  $\frac{1}{500000}\text{cm}$  (D)  $\frac{1}{5000}\text{cm}$
- (14) Digital modulation is expressed in:-  
 (A) Bits (B) Megabits (C) Bits per second (D) Bits per meter
- (15) If the object is placed just behind the principal focus of convex lens then image will be:-  
 (A) Virtual and magnified (B) Real and magnified (C) Virtual and inverted (D) Real and erect
- (16) First law of thermodynamics is the law of conservation of:-  
 (A) Mass (B) Potential energy (C) Kinetic energy (D) Energy
- (17) Boyle's law states that:-  
 (A)  $P \propto \frac{1}{V}$  at constant temperature (B)  $P \propto V$  at constant temperature  
 (C)  $V \propto T$  at constant pressure (D)  $V \propto \frac{1}{T}$  at constant pressure



## PHYSICS PAPER-I GROUP-II (OLD SCHEME)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

**Note:** 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. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

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 (A) Bits (B) Megabits (C) Bits per second (D) Bits per meter
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 (C)  $V \propto T$  at constant pressure (D)  $V \propto \frac{1}{T}$  at constant pressure
- (5) Unit of power in terms of base unit is:-  
 (A)  $Kgm^2s^{-2}$  (B)  $Kgm^2s^{-3}$  (C)  $Kgms^{-2}$  (D)  $Kgm^{-1}s^{-2}$
- (6) The direction of a vector in space is specified by:-  
 (A) 1 angle (B) 2 angles (C) 3 angles (D) 4 angles
- (7) For a body moving with uniform acceleration, its average acceleration is:-  
 (A) Equal to zero (B) Positive (C) Negative (D) Equal to instantaneous acceleration
- (8) In projectile motion horizontal component of acceleration is:-  
 (A) Positive (B) Negative (C) Equal to  $9.8ms^{-2}$  (D) Equal to zero
- (9) \_\_\_\_\_ is non-conservative.  
 (A) The Electric force (B) The Frictional force (C) The Gravitational force (D) The Spring force
- (10) The real weight and apparent weight of an object will be equal to each other when body is moving with:-  
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- (11) An INTELSAT VI satellite operates at frequencies of:-  
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- (12) \_\_\_\_\_ is most viscous at  $30^\circ C$ .  
 (A) Water (B) Air (C) Glycerin (D) Ethanol
- (13) For initial phase  $\phi = 90^\circ$ , instantaneous displacement ( $X$ ) can be expressed as:-  
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- (16) Radar speed trap uses:-  
 (A) Microwaves (B) Radio waves (C) Ultrasound waves (D) X-rays
- (17) A diffraction grating has 5000 lines per centimeter, its grating element is:-  
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## PHYSICS PAPER-I GROUP-II (OLD SCHEME)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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 (A) 4, 6, 11 and 14 GHz (B) 4, 6, 11 and 14 MHz  
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- (2) \_\_\_\_\_ is most viscous at 30°C.  
 (A) Water (B) Air (C) Glycerin (D) Ethanol
- (3) For initial phase  $\phi = 90^\circ$ , instantaneous displacement ( $X$ ) can be expressed as:-  
 (A)  $X = X_0 \sin \omega t$  (B)  $X = X_0 \cos \omega t$  (C)  $X = -X_0 \sin \omega t$  (D)  $X = -X_0 \cos \omega t$
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 (A)  $61 \text{ ms}^{-1}$  (B)  $61 \text{ kms}^{-1}$  (C)  $0.61 \text{ kms}^{-1}$  (D)  $0.61 \text{ ms}^{-1}$
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 (A) Increasing velocity (B) Decreasing velocity (C) Constant velocity (D) increasing acceleration



## ★ PHYSICS PAPER-I GROUP-II (OLD SCHEME)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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- (17) \_\_\_\_\_ is non-conservative.  
(A) The Electric force (B) The Frictional force (C) The Gravitational force (D) The Spring force



**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-I (OLD SCHEME)**

TIME ALLOWED: 3.10 Hours

**SUBJECTIVE**

MAXIMUM MARKS: 83

**NOTE: - Write same question number and its part number on answer book, as given in the question paper.**

**SECTION-I****Q.No.2 Attempt any eight parts.****8 × 2 = 16**

- (i) Give the drawbacks to use the period of a pendulum as a time standard.
- (ii) The period of simple pendulum is measured by a stopwatch. What types of errors are possible in the time period.
- (iii) How many seconds are there in 1 year?
- (iv) Write the dimensions of (i) Pressure (ii) Density
- (v) Can a vector have a component greater than the vector's magnitude?
- (vi) Can you add zero to a null vector?
- (vii) Can a body rotate about its centre of gravity under the action of its weight?
- (viii) Can the velocity of an object reverse the direction when acceleration is constant?
- (ix) At what point or points in its path does a projectile have its minimum speed, its maximum speed?
- (x) Find the velocity of a heavy body when it elastically collides with a stationary light body.
- (xi) Derive a relation between impulse and linear momentum.
- (xii) Explain how the swing is produced in a fast moving cricket ball?

**Q.No.3 Attempt any eight parts.****8 × 2 = 16**

- (i) A boy uses a catapult to throw a stone which smashes a green house window. List the possible energy changes.
- (ii) An object has 1 J of potential energy. Explain what does it mean?
- (iii) What is SI unit of power? Define it.
- (iv) State Law of Conservation of Angular Momentum.
- (v) Explain how many minimum number of geo-stationary satellites are required for global coverage of T.V. transmission.
- (vi) Describe what should be the minimum velocity, for a satellite, to orbit close to the Earth around it.
- (vii) Show that in simple harmonic motion the acceleration is zero when the velocity is greatest.
- (viii) Explain the term resonance.
- (ix) Can we realize an ideal simple pendulum? Explain.
- (x) What is the difference between transverse waves and longitudinal waves?
- (xi) Stars moving towards the Earth show a blue shift. Why?
- (xii) As a result of a distant explosion, an observer senses a ground tremor and then hears the explosion. Explain the time difference.

**Q.No.4 Attempt any six parts.****6 × 2 = 12**

- (i) When an oil film spreading over a wet footpath shows colours?
- (ii) Why the central spot of the Newton's rings is dark?
- (iii) Can visible light produce interference fringes? Explain.
- (iv) What is total internal reflection? Explain.
- (v) Define Linear and Angular Magnification.
- (vi) Define Real and Virtual Image.
- (vii) Specific heat of a gas at constant pressure is greater than specific heat at constant volume. Why?
- (viii) Does entropy of a system increase or decrease due to friction?
- (ix) Why does the pressure of a gas in a car tyre increase, when it is driven through some distance?



**SECTION-II****NOTE: - Attempt any three questions of the following:-** $3 \times 8 = 24$ 

- 5.(a) Define scalar product of two vectors. Explain any four characteristics of scalar product. 1 + 4
- (b) A ball is thrown with a speed of 30 m/s in a direction  $30^\circ$  above the horizon. Determine the height to which it rises, the time of flight and the horizontal range. 3
- 6.(a) Define gravitational field. Prove that the work done in gravitational field is independent of the path followed by the body. 5
- (b) A 1000 kg car travelling with a speed of  $144 \text{ km h}^{-1}$  round a curve of radius 100 m. Find the necessary centripetal force. 3
- 7.(a) Define terminal velocity. Derive an expression for the terminal velocity of a spherical droplet of water falling freely through air using Stoke's Law. 5
- (b) 336 J of energy is required to melt 1g of ice at  $0^\circ \text{C}$ . What is the change in entropy of 30 g of water at  $0^\circ \text{C}$  as it is changed to ice at  $0^\circ \text{C}$  by a refrigerator? 3
- 8.(a) What is the effect of temperature on speed of sound? Drive the relation  $v_t = v_o + 0.61t$  1 + 4
- (b) What should be the length of a simple pendulum whose period is 1.0 second at a place where  $g = 9.8 \text{ m/sec}^2$ ? What is the frequency of such a pendulum? 3
- 9.(a) What is Michelson's interferometer? Explain its working and also derive its equation. 5
- (b) An astronomical telescope having magnifying power of 5 consists of two thin lenses 24 cm apart. Find the focal lengths of the lenses. 3

**SECTION-III (PRACTICAL)****10. (A) Write answers of any four parts.** $4 \times 2 = 8$ 

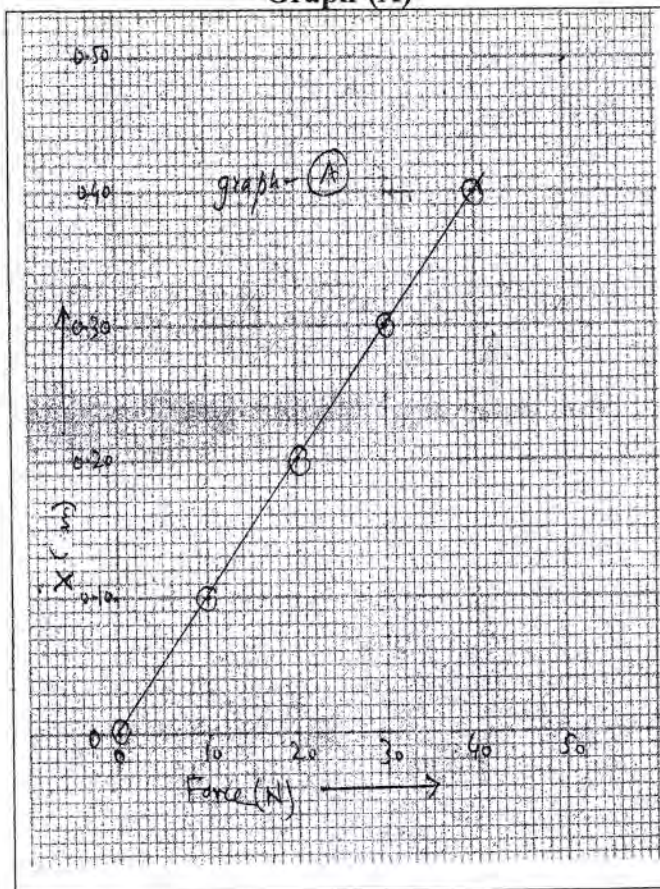
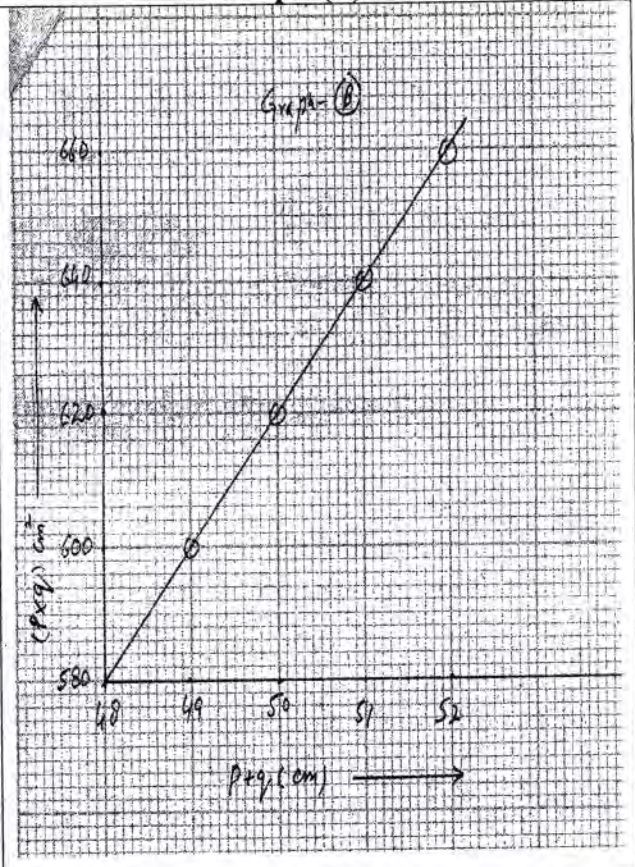
- (i) What is vernier constant?
- (ii) Define the pitch of screw gauge. Give its value.
- (iii) On what factors, the time period of oscillating mass, in mass spring system depend?
- (iv) What is a resultant vector? Give its formula.
- (v) Define critical angle.
- (vi) What is centre of gravity? How it is found for a meter rod?
- (vii) What is the difference between Concave lens and Convex lens?
- (viii) Define Newton's rings.
- (B) Write down the brief procedure to determine acceleration due to gravity 'g' by free fall electronic timer experiment. 3

**OR**

Write down the main points of procedure to find the critical angle of glass prism.

**(C) Answer the following questions on the basis of graph drawn below:-** $2 \times 2 = 4$ 

- (A) (i) What does the graph show? **OR** (B) (i) What does the graph show?
- (ii) Find the slope of graph. (ii) Find the focal length of lens from graph i.e slope.

**Graph-(A)****Graph-(B)**



★  
**PHYSICS PAPER-I GROUP-I (OLD SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

- (1) S.I unit of solid angle is:-  
 (A) Radian (B) Degree (C) Revolution (D) Steradian
- (2) If a vector of magnitude 10 N is along  $y$  – axis, then its component along  $x$  – axis is:-  
 (A) 5 N (B) Zero (C) 8.66 N (D) 10 N
- (3) For \_\_\_\_\_ angle of projection, the maximum height and range of projectile are equal.  
 (A)  $45^\circ$  (B)  $76^\circ$  (C)  $90^\circ$  (D)  $30^\circ$
- (4) The rate of change of momentum of a body is equal to:-  
 (A) Velocity (B) Acceleration (C) Applied force (D) Displacement
- (5) An example of non-conservative force is:-  
 (A) Frictional force (B) Gravitational force (C) Magnetic force (D) Electric force
- (6) One radian is equal to:-  
 (A)  $57.3^\circ$  (B)  $53.7^\circ$  (C)  $5.73^\circ$  (D)  $5.37^\circ$
- (7) Angular acceleration is produced by:-  
 (A) Force (B) Power (C) Torque (D) Work
- (8) One torr is equal to:-  
 (A)  $1.33 \text{ Nm}^{-2}$  (B)  $13.3 \text{ Nm}^{-2}$  (C)  $0.133 \text{ Nm}^{-2}$  (D)  $133.3 \text{ Nm}^{-2}$
- (9) The product of time period and frequency is equal to:-  
 (A) Zero (B)  $\pi$  (C) 1 (D) 2
- (10) The force responsible for the vibratory motion of simple pendulum is:-  
 (A)  $mg$  (B)  $mg \sin \theta$  (C) Tension in the string (D)  $mg \cos \theta$
- (11) Two tuning forks of frequencies 260 Hz and 257 Hz are sounded together, the number of beats per second is equal to:-  
 (A) 4 (B) 3 (C) 517 (D) 260
- (12) Huygen's principle is used to:-  
 (A) Explain polarization (B) Locate wave front  
 (C) Find the speed of light (D) Find the refractive index
- (13) The speed of sound in vacuum is equal to:-  
 (A)  $280 \text{ ms}^{-1}$  (B)  $332 \text{ ms}^{-1}$  (C) Zero (D)  $0.61 \text{ ms}^{-1}$
- (14) The length of astronomical telescope in the normal adjustment is equal to:-  
 (A)  $f_o - f_e$  (B)  $\frac{f_o}{f_e}$  (C)  $f_o + f_e$  (D)  $f_e - f_o$
- (15) The value of critical angle for glass air boundary is:-  
 (A)  $41.8^\circ$  (B)  $42.8^\circ$  (C)  $45^\circ$  (D)  $40.8^\circ$
- (16) For an ideal gas, the internal energy is directly proportional to:-  
 (A) Pressure (B) Volume (C) Mass (D) Temperature
- (17) Cloud formation in atmosphere is an example of:-  
 (A) Isothermal process (B) Isochoric process (C) Isobaric process (D) Adiabatic process



**PHYSICS PAPER-I GROUP-I (OLD SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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 (A) Explain polarization (B) Locate wave front  
 (C) Find the speed of light (D) Find the refractive index
- (17) The speed of sound in vacuum is equal to:-  
 (A)  $280 \text{ ms}^{-1}$  (B)  $332 \text{ ms}^{-1}$  (C) Zero (D)  $0.61 \text{ ms}^{-1}$



**PHYSICS PAPER-I GROUP-I (OLD SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

**Note:** 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. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) One torr is equal to:-  
 (A)  $1.33 \text{ Nm}^{-2}$  (B)  $13.3 \text{ Nm}^{-2}$  (C)  $0.133 \text{ Nm}^{-2}$  (D)  $133.3 \text{ Nm}^{-2}$
- (2) The product of time period and frequency is equal to:-  
 (A) Zero (B)  $\pi$  (C) 1 (D) 2
- (3) The force responsible for the vibratory motion of simple pendulum is:-  
 (A)  $mg$  (B)  $mg \sin \theta$  (C) Tension in the string (D)  $mg \cos \theta$
- (4) Two tuning forks of frequencies 260 Hz and 257 Hz are sounded together, the number of beats per second is equal to:-  
 (A) 4 (B) 3 (C) 517 (D) 260
- (5) Huygen's principle is used to:-  
 (A) Explain polarization (B) Locate wave front  
 (C) Find the speed of light (D) Find the refractive index
- (6) The speed of sound in vacuum is equal to:-  
 (A)  $280 \text{ ms}^{-1}$  (B)  $332 \text{ ms}^{-1}$  (C) Zero (D)  $0.61 \text{ ms}^{-1}$
- (7) The length of astronomical telescope in the normal adjustment is equal to:-  
 (A)  $f_o - f_e$  (B)  $\frac{f_o}{f_e}$  (C)  $f_o + f_e$  (D)  $f_e - f_o$
- (8) The value of critical angle for glass air boundary is:-  
 (A)  $41.8^\circ$  (B)  $42.8^\circ$  (C)  $45^\circ$  (D)  $40.8^\circ$
- (9) For an ideal gas, the internal energy is directly proportional to:-  
 (A) Pressure (B) Volume (C) Mass (D) Temperature
- (10) Cloud formation in atmosphere is an example of:-  
 (A) Isothermal process (B) Isochoric process (C) Isobaric process (D) Adiabatic process
- (11) S.I unit of solid angle is:-  
 (A) Radian (B) Degree (C) Revolution (D) Steradian
- (12) If a vector of magnitude 10 N is along  $y$  - axis, then its component along  $x$  - axis is:-  
 (A) 5 N (B) Zero (C) 8.66 N (D) 10 N
- (13) For \_\_\_\_\_ angle of projection, the maximum height and range of projectile are equal.  
 (A)  $45^\circ$  (B)  $76^\circ$  (C)  $90^\circ$  (D)  $30^\circ$
- (14) The rate of change of momentum of a body is equal to:-  
 (A) Velocity (B) Acceleration (C) Applied force (D) Displacement
- (15) An example of non-conservative force is:-  
 (A) Frictional force (B) Gravitational force (C) Magnetic force (D) Electric force
- (16) One radian is equal to:-  
 (A)  $57.3^\circ$  (B)  $53.7^\circ$  (C)  $5.73^\circ$  (D)  $5.37^\circ$
- (17) Angular acceleration is produced by:-  
 (A) Force (B) Power (C) Torque (D) Work



**PHYSICS PAPER-I GROUP-I (OLD SCHEME)**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

**Note:** 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. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

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**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN**  
**OBJECTIVE KEY FOR INTERMEDIATE ANNUAL/SUPPLY EXAMINATION, 2018**

Name of Subject: Physics  
Group: 1st old scheme

Session: 2017  
Group: 2nd old.

Q. Nos	Paper Code 6471	Paper Code 6473	Paper Code 6475	Paper Code 6477
1	D	C	D	A
2	B	A	C	A
3	B	D	B	C
4	C	D	B	D
5	A	D	B	C
6	A	B	C	B
7	C	B	C	B
8	D	C	A	B
9	C	A	D	C
10	B	A	D	C
11	B	C	D	A
12	B	D	B	D
13	C	C	B	D
14	C	B	C	D
15	A	B	A	B
16	D	B	A	B
17	D	C	C	C
18	/	/	/	/
19	/	/	/	/
20	/	/	/	/

Q. Nos	Paper Code 6472	Paper Code 6474	Paper Code 6476	Paper Code 6478
1	B	C	A	C
2	C	B	C	A
3	D	D	B	C
4	D	A	D	B
5	B	B	D	D
6	C	C	A	D
7	A	D	D	A
8	C	D	C	D
9	B	B	B	C
10	D	C	D	B
11	D	A	A	D
12	A	C	B	A
13	D	B	C	B
14	C	D	D	C
15	B	D	D	D
16	D	A	B	D
17	A	D	C	B
18	/	/	/	/
19	/	/	/	/
20	/	/	/	/

سرٹیفکیٹ بابت صحیح سوالیہ پرچہ / مارکنگ Key

ہم نے مضمون physics پرچہ I گروپ I, II سکیم old انٹر سالانہ / ضمنی امتحان 2018 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عین چیک کر لیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 28-05-18

S.#	Name	Designation	Institution	Mobile No	Signature
1	Shahid Jhal	A.P	Govt. W.H.I. College Multan	03077360030	
2	Abdul Ghani Ansari	A.P	Govt. A.H.G.S. College Multan	0305-8438895	
3	Syed Yaseen Shah	A.P	Govt. Wileed H.G. College Multan	03007349430	

Re-Checked By ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) معروضی "Key" اور ہدایات کے حوالہ سے مکمل طور پر چیک کر لیا ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

1	Ali Hussain Gillani	Asst. Prof	Govt. Emerson College Multan	0300-7381114	
2	Muhammad Shafe	A/P Physics	Govt. Milet College Multan	0322610367	
3					

29/05/18