

**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-I (OLD SCHEME) (SESSION 2012-2014)**

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) Name several repetitive phenomenon occurring in nature which could serve as reasonable time standards.
  - (ii) What are the dimensions and units of Gravitational Constant "G" in the formula  $F = G \frac{m_1 m_2}{r^2}$  ?
  - (iii) The period of a simple pendulum is measured by a stop watch. What type of errors are possible in the time period?
  - (iv) Find the dimension of coefficient of viscosity " $\eta$ " in the relation of Stokes' law for the drag force " $F$ " for a spherical object of radius " $r$ " moving with velocity " $v$ " given as  $F = 6\pi\eta r v$ .
  - (v) What is the difference between Scalars and Vectors? Give examples.
  - (vi) If  $\vec{A} + \vec{B} = 0$ , what can you say about the components of the two vectors?
  - (vii) Can a body rotate about its centre of gravity under the action of its weight? Explain.
  - (viii) What is an Isolated System? Give an example.
  - (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) Define Impulse and show that how it is related to Linear Momentum?
  - (xi) Find the angle of projection of a projectile for which its maximum height and horizontal range are equal.
  - (xii) Two row boats moving parallel in the same direction are pulled towards each other. Explain.
- Q.No.3 Attempt any eight parts.** **8 × 2 = 16**
- (i) Calculate the work done in Kilo Joules in lifting a mass of 10 kg through a vertical height of 10 m.
  - (ii) When a rocket re-enters the atmosphere, the nose cone becomes very hot, where does this heat energy come from?
  - (iii) Define two processes by which heat is generated within the earth.
  - (iv) What is moment of inertia? Explain its significance.
  - (v) When mud flies off the tyre of a moving bicycle, in what direction does it fly off? Explain.
  - (vi) What is Radian? Calculate the number of degrees in one radian.
  - (vii) Can we realize an ideal simple pendulum?
  - (viii) Describe some common phenomena in which resonance plays an important role.
  - (ix) State Hook's Law and also write its mathematical form.
  - (x) Is it possible for two identical waves travelling in the same direction along a string to give rise to a stationary wave?
  - (xi) What features do longitudinal waves have in common with transverse waves?
  - (xii) Describe any two applications of Doppler Effect.
- Q.No.4 Attempt any six parts.** **6 × 2 = 12**
- (i) Under what conditions two or more sources of light behave as coherent sources?
  - (ii) How would you manage to get more orders of spectra using a diffraction grating?
  - (iii) Define diffraction grating and grating element.
  - (iv) What is a Spectrometer? Write down its three main parts.
  - (v) How the light signal is transmitted through the optical fibre?
  - (vi) Specific heat of a gas at constant pressure is greater than specific heat at constant volume. Why?
  - (vii) Give an example of a natural process that involves an increase in entropy.
  - (viii) What happens to the temperature of the room, when an air conditioner is left running on a table in the middle of the room?
  - (ix) Differentiate between Isothermal and Adiabatic Process.

**SECTION-II****NOTE: - Attempt any three questions of the following:-**

- 5.(a) What is Torque? Calculate the torque due to force acting on a rigid body. 1 + 4 = 5  
 (b) A truck weighing 2500kg and with moving velocity of 21 m/s collides with a stationary car weighing 1000 kg. The truck and the car move together after the impact. Calculate their common velocity. 3
- 6.(a) Prove that work done by gravitational field is independent of the path. 5  
 (b) A gramophone record turntable accelerates from rest to an angular velocity of  $45 \text{ rev min}^{-1}$  in 1.60 sec. What is its average angular acceleration? 3
- 7.(a) State equation of continuity. Give its principle and also derive it. 1 + 1 + 3 = 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) Define and explain interference of sound waves. Write the conditions of constructive and destructive interference. 5  
 (b) A simple pendulum is 50.0 cm long. What will be its frequency of vibration at a place where  $g = 9.8 \text{ ms}^{-2}$ ? 3
- 9.(a) Explain Young's Double Slit experiment to study interference of light. Derive relation for fringe thickness. 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

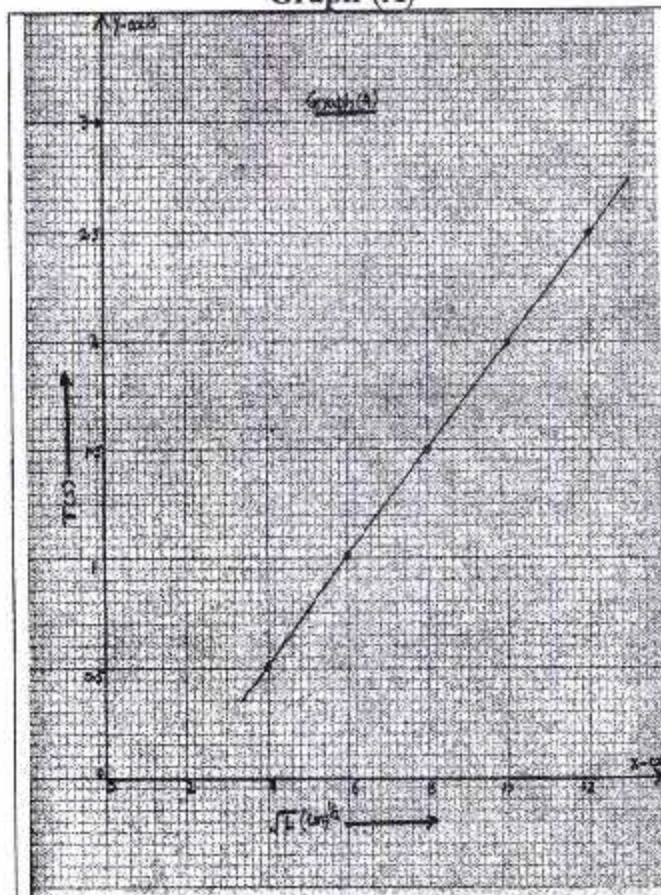
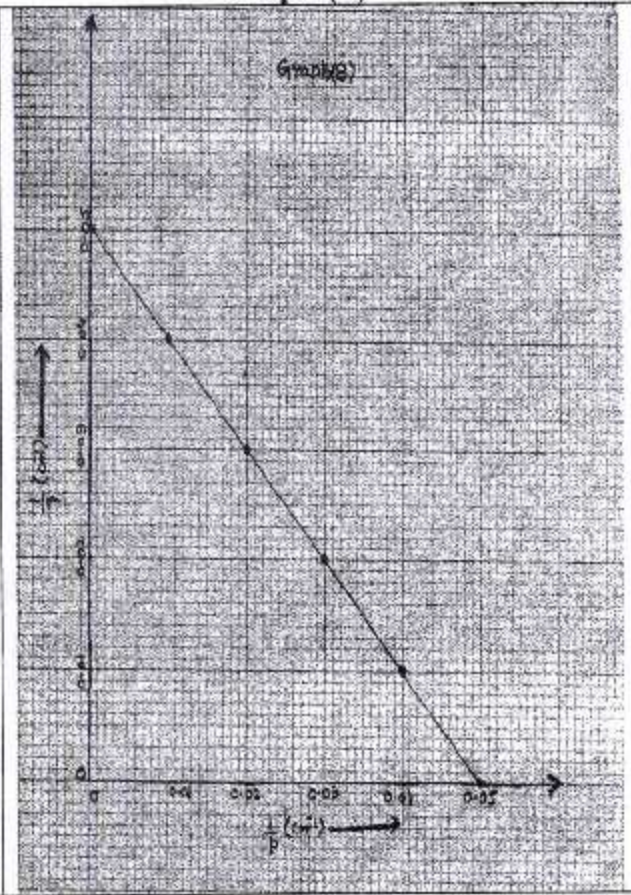
**SECTION-III (PRACTICAL)**

10. (A) Write answers of any four parts. 4 × 2 = 8
- (i) Define Vernier Constant of Vernier Collipers?  
 (ii) Diameter of a wire measured by a screw gauge is 0.32 mm. What is its area of cross section?  
 (iii) Why is the method of free fall so called?  
 (iv) Derive the formula  $g = \frac{2s}{t^2}$  use in Electric timer apparatus.  
 (v) State any two laws of Vibrating String.  
 (vi) What type of stationary waves are produce in the air column?  
 (vii) What is Parallax? (viii) What is Critical Angle?
- (B) Write down the brief procedure to find the acceleration due to gravity "g" by oscillating mass – spring system. 3

**OR**

Write down the brief procedure to find the refractive index of the material of a prism by Critical Angle Method.

- (C) Answer the following questions on the basis of graph drawn below:- 2 × 2 = 4
- (A) (i) Find the slope of the graph. **OR** (B) (i) Find the focal length of lens from the graph.  
 (ii) Find length of the second pendulum. (ii) What information have you obtained from graph?

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

## PHYSICS PAPER-I GROUP-I (OLD SCHEME) (SESSION 2012-2014)

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles 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 question on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) The SI unit of solid angle is:-  
 (A) Steradian (B) Degree (C) Revolution (D) Radian
- (2) A single vector having the same effect as all the original vectors taken together is called:-  
 (A) Equal vector (B) Position vector (C) Resultant vector (D) Unit vector
- (3) Rate of change of linear momentum is equal to:-  
 (A) Velocity (B) Force (C) Acceleration (D) Torque
- (4) The time of flight of the projectile is given by the relation:-  
 (A)  $T = \frac{Vi \sin \theta}{g}$  (B)  $T = \frac{2Vi \sin \theta}{g}$  (C)  $T = \frac{Vi \sin \theta}{2g}$  (D)  $T = \frac{Vi^2 \sin \theta}{g}$
- (5) The escape velocity can be determined by the relation:-  
 (A)  $V_{esc} = gR$  (B)  $V_{esc} = 2gR$  (C)  $V_{esc} = \sqrt{gR}$  (D)  $V_{esc} = \sqrt{2gR}$
- (6) Moment of inertia of thin rod is given by the relation:-  
 (A)  $I = \frac{1}{12} mL^2$  (B)  $I = \frac{2}{5} mR^2$  (C)  $I = 12mL^2$  (D)  $I = \frac{5}{7} mR^2$
- (7) Minimum number of geostationary satellite required to cover the whole populated world is:-  
 (A) 1 (B) 2 (C) 3 (D) 4
- (8) If angular velocity of a particle rotating in a circle is doubled, then its moment of inertia:-  
 (A) Remains same (B) Becomes half (C) Becomes doubled (D) Becomes 4 times
- (9) The frictional effect between different layers of a moving fluid is called:-  
 (A) Fluidity (B) Density (C) Viscosity (D) Flow rate
- (10) If mass of the pendulum becomes double, its time period will become:-  
 (A) Doubled (B) Half (C) One fourth (D) Remains same
- (11) The distance between node and next antinode is equal to:-  
 (A)  $\lambda$  (B)  $\frac{\lambda}{2}$  (C)  $\frac{\lambda}{3}$  (D)  $\frac{\lambda}{4}$
- (12) The speed of sound in vacuum is:-  
 (A)  $280 \text{ ms}^{-1}$  (B)  $332 \text{ ms}^{-1}$  (C)  $333 \text{ ms}^{-1}$  (D) Zero
- (13) The basic principle of beats is:-  
 (A) Interference (B) Diffraction (C) Reflection (D) Refraction
- (14) Phase angle of  $180^\circ$  is equivalent to a path difference:-  
 (A)  $\frac{\lambda}{2}$  (B)  $\frac{\lambda}{4}$  (C)  $2\lambda$  (D)  $\lambda$
- (15) The magnifying power of a convex lens of focal length 10 cm is:-  
 (A) 3.5 (B) 7 (C) 9 (D) 11
- (16) The latent heat of fusion of ice is:-  
 (A)  $3.36 \times 10^5 \text{ J Kg}^{-1}$  (B)  $3.36 \times 10^{-5} \text{ J Kg}^{-1}$  (C)  $3.36 \times 10^6 \text{ J Kg}^{-1}$  (D)  $3.36 \times 10^7 \text{ J Kg}^{-1}$
- (17) For an ideal gas system, the internal energy is directly proportional to:-  
 (A) Pressure (B) Volume (C) Mass (D) Temperature

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TIME ALLOWED: 20 Minutes

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 (A)  $3.36 \times 10^5 \text{ J Kg}^{-1}$  (B)  $3.36 \times 10^{-3} \text{ J Kg}^{-1}$  (C)  $3.36 \times 10^6 \text{ J Kg}^{-1}$  (D)  $3.36 \times 10^7 \text{ J Kg}^{-1}$
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- (11) Minimum number of geostationary satellite required to cover the whole populated world is:-  
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**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-II (OLD SCHEME) (SESSION 2012-2014)**

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) Add the following masses given in Kg up to appropriate precision, 2.189, 0.089, 11.8 and 5.32.
- (ii) What are the dimensions and units of Gravitational Constant "G" in the formula  $F = G \frac{m_1 m_2}{r^2}$ ?
- (iii) How many seconds are there in 1 year? Explain.
- (iv) Define the terms Random Error and Systematic Error.
- (v) If one of the rectangular components of a vector is not zero, can its magnitude be zero? Explain.
- (vi) Can you add zero to a null vector? Explain.
- (vii) Define Static and Dynamic Equilibrium.
- (viii) Motion with Constant Velocity is a special case of motion with constant acceleration. Is this statement true? Discuss.
- (ix) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity, relative to velocity, while object is in air.
- (x) Define impulse and show that how it is related to linear momentum?
- (xi) Explain the relation between Momentum and Newton's Second Law of Motion.
- (xii) Two row boats moving parallel in the same direction are pulled towards each other. Explain.

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

- (i) A girl drops a cup from certain height, which breaks into pieces. Discuss energy changes.
- (ii) State Work Energy Principle.
- (iii) Define Escape Velocity.
- (iv) Give the difference between Real and Apparent Weight.
- (v) How artificial gravity is produced in a Satellite?
- (vi) Show that Orbital Angular Momentum is  $L_o = mvr$ .
- (vii) Give the relation between Time Period and Frequency.
- (viii) Define Resonance. Give one example.
- (ix) Describe three phenomena in which resonance plays an important role.
- (x) What is the effect of pressure on the speed of sound?
- (xi) Explain nodes and antinodes.
- (xii) How are beats useful in tuning the musical instrument?

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

- (i) How would you distinguish between un-polarized and plane-polarized lights?
- (ii) Can visible light produce interference fringes? Explain.
- (iii) What is meant by Optical Rotation?
- (iv) What do you understand by Linear Magnification and Angular Magnification?
- (v) What is least distance of distinct vision?
- (vi) Why is the average velocity of the molecules in a gas zero but the average of the square of the velocities is not zero?
- (vii) Is it possible to construct a heat engine that will not expel heat into the atmosphere? Explain.
- (viii) What happens to the temperature of the room, when an air conditioner is left running on a table in the middle of the room?
- (ix) What is meant by Triple Point of Water? Also write down its value.

**SECTION-II****NOTE:- Attempt any three questions of the following:-**

- 5.(a) What is meant by an Isolated System? In an Isolated System, elastic collision, prove that the magnitude of relative velocity of approach is equal to the magnitude of relative velocity of separation? 1 + 4 = 5
- (b) Find the projection of vector  $\vec{A} = 2\hat{i} - 8\hat{j} + \hat{k}$  in the direction of the vector  $\vec{B} = 3\hat{i} - 4\hat{j} - 12\hat{k}$ . 3
- 6.(a) What is Geo-stationary Satellite? Give its examples. Calculate its orbital velocity, orbital period & orbital radius. 1 + 1 + 3 = 5
- (b) A force(thrust) of  $400\text{ N}$  is required to overcome road friction and air resistance in propelling an automobile at  $80\text{ km h}^{-1}$ . What power(kw) must the engine develop? 3
- 7.(a) Define Drag Force and Stokes' Law. Derive expression for terminal velocity in terms of density and coefficient of viscosity of fluid. 5
- (b) Calculate the entropy changes when  $1.0\text{ kg}$  ice at  $0^\circ\text{C}$  melts into water at  $0^\circ\text{C}$ .  
Latent heat of fusion of ice  $L_f = 3.36 \times 10^5\text{ J kg}^{-1}$ . 3
- 8.(a) Define Periodic Motion. Find an expression for simple harmonic motion and velocity of Spring Mass System. 5
- (b) Find the temperature at which the velocity of sound in air is two times its velocity at  $10^\circ\text{C}$ . 3
- 9.(a) Describe construction and working of Michelson's Interferometer. 5
- (b) Calculate the critical angle and angle of entry for an optical fibre having core of refractive index 1.50 and cladding of refractive index 1.48. 3

**SECTION-III (PRACTICAL)**

10. (A) Write answers of any four parts. 4 × 2 = 8
- (i) What is meant by the pitch of micrometer screw gauge?
- (ii) Is the value of "g" remains constant at every place? Explain.
- (iii) How will the time period of a simple pendulum be affected if the amplitude is changed?
- (iv) What are necessary conditions for a body to be in complete equilibrium?
- (v) What type of vibration is executed by the Sonometer wire? (vi) What is End Correction?
- (vii) Write the conditions for total internal reflection.
- (viii) Why should the distance between two needles be more than  $4f$ , in Lens Displacement Method?
- (B) Write down the brief procedure to find the volume of a small sphere by using micrometer screw gauge. 3

**OR**

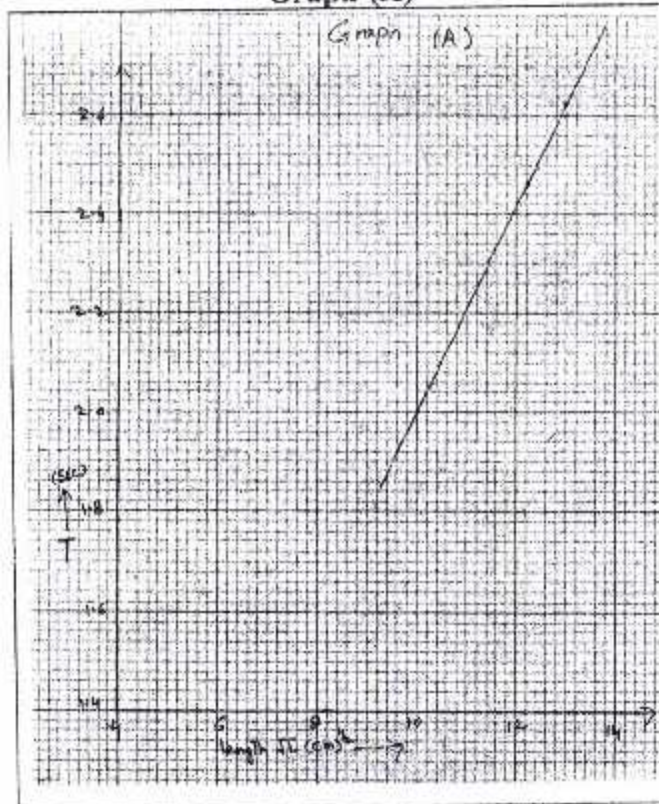
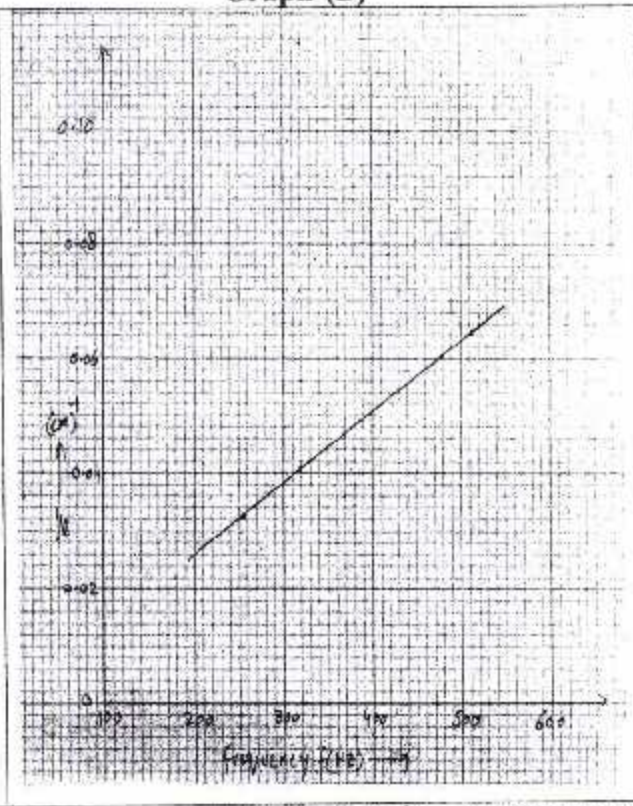
Write down the brief procedure to find refractive index of a glass prism by Critical Angle Method.

- (C) Consider the graph between  $\sqrt{\ell}$  and 'T'. 2 × 2 = 4

- (A) (i) Find the value of 'g' from the graph.  
(ii) Measure the length in meters at  $T = 2.30\text{ s}$  from the graph.

**OR**Consider the graph between 'f' and  $\frac{1}{\ell}$ . 2 × 2 = 4

- (B) (i) What do you infer from graph?  
(ii) Find the length in centimeters at frequency equal to  $380\text{ Hz}$  from the graph.

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



## PHYSICS PAPER-I GROUP-II (OLD SCHEME) (SESSION 2012-2014)

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles 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 question on this sheet of OBJECTIVE PAPER.

## Q.No.1

- (1) Light year is unit of:-  
(A) Force (B) Power (C) Distance (D) Velocity
- (2) If position vector  $\vec{r}$  and  $\vec{F}$  are in the same direction the torque will be:-  
(A) Maximum (B) Same (C) Negative (D) Minimum
- (3) The range of the projectile is maximum when it is projected at an angle of:-  
(A)  $45^\circ C$  (B)  $30^\circ C$  (C)  $20^\circ C$  (D)  $60^\circ C$
- (4) Laws of motion are not valid in a system which is:-  
(A) At rest (B) Moving with uniform velocity (C) Isolated (D) Non inertial
- (5) Kilowatt hour is the unit of:-  
(A) Work (B) Power (C) Force (D) Momentum
- (6) A diver spin faster by reducing its:-  
(A) Angular momentum (B) Torque (C) Inertia (D) Moment of inertia
- (7) A man standing in an elevator is acted upon:-  
(A) Two forces (B) One force (C) Three forces (D) Four forces
- (8) The centripetal acceleration is also called:-  
(A) Angular (B) Rotational (C) Radial (D) Tangential
- (9) Venturi meter is a device used to measure:-  
(A) Speed of fluid (B) Density of fluid (C) Viscosity of fluid (D) Pressure of fluid
- (10) When a particle is moving along a circular path, its projection along the diameter executes:-  
(A) Linear motion (B) S.H.M (C) Rotatory motion (D) Vibrating motion
- (11) Sound waves can travel only through:-  
(A) Vacuum (B) Material medium (C) Ether (D) Non Metal
- (12) The periodic increase and decrease in loudness of sound is called:-  
(A) Interference (B) Beats (C) Resonance (D) Polarization
- (13) With increase of temperature, speed of sound:-  
(A) Becomes zero (B) Remains constant (C) Increases (D) Decreases
- (14) The distance between two consecutive wave fronts is called:-  
(A) Time period (B) Frequency (C) Displacement (D) Wavelength
- (15) \_\_\_\_\_ phenomena of light is used in propagation of light through optical fibers.  
(A) Total internal reflection (B) Interference (C) Polarization (D) Diffraction
- (16) Pascal is the unit of:-  
(A) Force (B) Tension (C) Weight (D) Pressure
- (17) For working of heat engine, there must be:-  
(A) A source and a sink (B) A sink only (C) A source only (D) Water

## PHYSICS PAPER-I GROUP-II (OLD SCHEME) (SESSION 2012-2014)

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles 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 question on this sheet of OBJECTIVE PAPER.

Q.No.1

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- (14) If position vector  $\vec{r}$  and  $\vec{F}$  are in the same direction the torque will be:-  
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- (15) The range of the projectile is maximum when it is projected at an angle of:-  
(A)  $45^\circ C$  (B)  $30^\circ C$  (C)  $20^\circ C$  (D)  $60^\circ C$
- (16) Laws of motion are not valid in a system which is:-  
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## PHYSICS PAPER-I GROUP-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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## Q.No.1

- (1) The periodic increase and decrease in loudness of sound is called:-  
(A) Interference (B) Beats (C) Resonance (D) Polarization
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## PHYSICS PAPER-I GROUP-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,  
MULTAN**

**OBJECTIVE KEY FOR INTER (PART-I/ II) Annual Examination, 2017.**

Name of Subject Physics

Session 2012-2014

Group: 1st old Scheme

Group: 2nd

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

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

**سرٹیفکیٹ بابت صحیح سوالیہ پرچہ/ مارکنگ Key**

ہم نے مضمون Physics پرچہ I گروپ I & II سیم old انٹرمیڈیٹ امتحان 2017 کا سوالیہ پرچہ پیش کیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی (Subjective & Objective) کو نظر میں چیک کر لیا ہے یہ پرچہ سلیبس کے متن مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہیں ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے اس میں بھی کسی قسم کی کوئی غلطی نہیں ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بنور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY

Sr.No	Name	Designation	Institution	Mobile No.	Signature
1.	Syed Muzaffar Abbas	Asst. Prof.	G.C. of Science	0300-6366719	
2.	M. Nadeem	Asst. Lecturer	M. I. T. College	0300-9637403	
3.	AISHA MUHAMMAD	Principal	G.C. Jalucian	03008390411	
4.	Shahdossal A.P		Gout. W.H.I. College	03077360030	
5.	Ali Hussain Gillani	Asso. Prof.	Gout. Emerson Collg	0300-7381119	

**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-I (NEW SCHEME) (SESSION 2015-2017)**

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 you can find uncertainty in a timing experiment?
- (ii) Check the correctness of relation  $v = r\omega$
- (iii) The period of simple pendulum is measured by a stop watch. What type of errors are possible in the time period?
- (iv) Why do we find it useful to have two units for the amount of substance the kilogram and the mole?
- (v) Define position vector and explain it briefly.
- (vi) Is it possible to add a vector quantity to a scalar quantity? Explain.
- (vii) Name three different conditions that could make  $\vec{A}_1 \times \vec{A}_2 = 0$
- (viii) Which will be more effective in knocking a bear down?  
(i) A rubber bullet or a lead bullet of same momentum, why?
- (ix) What is a Ballistic Missile and Ballistic Trajectory?
- (x) Explain the circumstance in which the velocity  $v$  and acceleration of a car are  
(i) parallel (ii) perpendicular to one another
- (xi) A man wishes to take a long jump. At what angle he should jump? Explain.
- (xii) A Chimney works best when it is tall. Why?

**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 escape velocity and write only the formula of escape velocity.
- (iii) A boy drops a glass from a certain height which breaks into pieces. What energy changes are involved?
- (iv) What is meant by Angular Momentum? State only Law of Conservation of Angular Momentum.
- (v) Why does a diver change his body positions before and after diving in the pool?
- (vi) What is the difference between Real and Apparent weight?
- (vii) What happens to the period of simple pendulum if its length is doubled?
- (viii) Describe some common phenomena in which resonance plays an important role.
- (ix) Define free and Forced Oscillations.
- (x) Explain the term Crest and Node.
- (xi) Explain why sound travels faster in warm air than in cold air.
- (xii) Define Transverse and Longitudinal Waves. Also give examples.

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

- (i) What is a Diffraction Grating and Grating Element?
- (ii) What is Optical Rotation or Optical Activity?
- (iii) How would you distinguish between un-polarized and plane-polarized light?

(2)

- (iv) What is Optical Resolution and Resolving Power?
- (v) Draw the ray diagram of astronomical telescope when it is in normal adjustment.
- (vi) Why spark plug is not needed in a diesel engine?
- (vii) Specific heat of a gas at constant pressure is greater than that at constant volume. Why?
- (viii) Write down two statements of 2<sup>nd</sup> Law of Thermodynamics.
- (ix) What is an Adiabatic Process? Draw a graph between pressure and volume of an adiabatic process and give name of this graph.

### SECTION-II

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

- 5.(a) Describe Vector Addition by using their rectangular components. Derive the relation for the magnitude and direction of the resultant incase of two vectors and n-vectors. 2 + 1 + 1 + 1 = 5
- (b) A 100 g golf ball is moving to the right with a velocity  $20ms^{-1}$ . It makes a head on collision with an 8 kg steel, ball initially at rest. Find the velocities of balls after collision. 3
- 6.(a) What is a Geostationary Satellite? Derive an expression for Orbital Radius of the path of Geostationary Satellite. 5
- (b)  $100m^3$  of water is pumped from a reservoir into a tank, 10m higher than the reservoir, in twenty minutes. Find the power delivered by the pump if density of water is  $1000Kgm^{-3}$ . 3
- 7.(a) Define molar specific heat at constant Volume and Molar specific heat at constant pressure. Prove that  $C_p - C_v = R$ . 5
- (b) Water flows through a hose, whose internal diameter is 1cm at a speed of  $1ms^{-1}$ . What should be the diameter of the nozzle if the water is to emerge at  $21ms^{-1}$ ? 3
- 8.(a) Describe the transverse stationary waves in a stretched string. Show that the frequencies of stretched string are quantized. 5
- (b) A simple pendulum is 50 cm long. What will be its frequency of vibration at a place where  $g = 9.8ms^{-2}$ ? 3
- 9.(a) What is Astronomical Telescope? Derive relation for its Magnifying Power. 5
- (b) In a double slit experiment, the second order maximum occurs at  $\theta = 0.25^\circ$ . The wavelength is  $650nm$ . Determine the slit separation. 3

## PHYSICS PAPER-I GROUP-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

- (1) \_\_\_\_\_ is a derived unit.  
 (A) Newton (B) Ampere (C) Candela (D) Kelvin
- (2) If  $|\vec{A} \times \vec{B}| = |\vec{A} \cdot \vec{B}|$  then angle between the vectors  $\vec{A}$  and  $\vec{B}$  is:-  
 (A)  $0^\circ$  (B)  $90^\circ$  (C)  $45^\circ$  (D)  $180^\circ$
- (3) A ball is dropped from rest position from a high tower. The distance covered by it in 2 seconds during freely falling is:- (A) 9.8 m (B) 4.9 m (C) 19.6 m (D) 39.2 m
- (4) The maximum horizontal range of a projectile is given by:-  
 (A)  $\frac{Vi^2}{g}$  (B)  $\frac{Vi^2}{2g}$  (C)  $\frac{2Vi}{g}$  (D)  $\frac{2Vi^2}{g}$
- (5) Watt -  $m^{-2}$  is the unit of :-  
 (A) Energy (B) Intensity (C) Power (D) Work
- (6) The angular speed of a flywheel making 120 revolutions per minute is:-  
 (A)  $2\pi \text{ rad s}^{-1}$  (B)  $120 \text{ rad s}^{-1}$  (C)  $\pi \text{ rad s}^{-1}$  (D)  $4\pi \text{ rad s}^{-1}$
- (7) When a body moves in a circle, the angle between linear velocity and angular velocity is:-  
 (A)  $0^\circ$  (B)  $90^\circ$  (C)  $45^\circ$  (D)  $180^\circ$
- (8) The ratio of rotational K.E. of a hoop to its translational K.E. is:-  
 (A) 1 : 2 (B) 2 : 1 (C) 1 : 1 (D) 1 : 4
- (9) A 2 metre high tank is full of water. If a hole appears at its middle, then the speed of efflux is:-  
 (A)  $4.4 \text{ ms}^{-1}$  (B)  $10 \text{ ms}^{-1}$  (C)  $6.2 \text{ ms}^{-1}$  (D)  $20 \text{ ms}^{-1}$
- (10) A spring has a spring constant  $K$ . If it is cut in two equal parts, the spring constant of each part will be:-  
 (A)  $K$  (B)  $2K$  (C)  $\frac{K}{2}$  (D)  $4K$
- (11) The speed of stars and galaxies can be calculated by:-  
 (A) Compton Effect (B) Stefan's Law (C) Doppler's Effect (D) Pascal's Law
- (12) A string of length  $\ell$  fixed at both ends is vibrating in two segments, the wavelength of wave is:-  
 (A)  $\frac{\ell}{2}$  (B)  $\ell$  (C)  $2\ell$  (D)  $3\ell$
- (13) Stationary waves are generated on a string of length  $\ell$ . If tension is increased, frequency of vibration will:- (A) Decrease (B) Unchanged (C) Half (D) Increase
- (14) Sodium Chloride in a flame gives:-  
 (A) Green light (B) Blue light (C) White light (D) Yellow light
- (15) If an object lies at focus point  $F$  in front of a convex lens, its image is formed at:-  
 (A)  $2F$  (B)  $F$  (C)  $3F$  (D) Infinity
- (16) The process in which temperature of the system remains constant is:-  
 (A) Isobaric (B) Isothermal (C) Isochoric (D) Adiabatic
- (17) The efficiency of a Carnot Heat Engine is 100% if temperature of sink  $T_2$  is:-  
 (A)  $0^\circ C$  (B)  $0 K$  (C)  $0^\circ F$  (D)  $100 K$



## PHYSICS PAPER-I GROUP-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

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- (2) If an object lies at focus point  $F$  in front of a convex lens, its image is formed at:-  
 (A)  $2F$  (B)  $F$  (C)  $3F$  (D) Infinity
- (3) The process in which temperature of the system remains constant is:-  
 (A) Isobaric (B) Isothermal (C) Isochoric (D) Adiabatic
- (4) The efficiency of a Carnot Heat Engine is 100% if temperature of sink  $T_2$  is:-  
 (A)  $0^\circ C$  (B)  $0 K$  (C)  $0^\circ F$  (D)  $100 K$
- (5) \_\_\_\_\_ is a derived unit.  
 (A) Newton (B) Ampere (C) Candela (D) Kelvin
- (6) If  $|\vec{A} \times \vec{B}| = |\vec{A} \cdot \vec{B}|$  then angle between the vectors  $\vec{A}$  and  $\vec{B}$  is:-  
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- (7) A ball is dropped from rest position from a high tower. The distance covered by it in 2 seconds during freely falling is:- (A) 9.8 m (B) 4.9 m (C) 19.6 m (D) 39.2 m
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 (A)  $\frac{V_i^2}{g}$  (B)  $\frac{V_i^2}{2g}$  (C)  $\frac{2V_i}{g}$  (D)  $\frac{2V_i^2}{g}$
- (9) Watt -  $m^{-2}$  is the unit of :-  
 (A) Energy (B) Intensity (C) Power (D) Work
- (10) The angular speed of a flywheel making 120 revolutions per minute is:-  
 (A)  $2\pi \text{ rad s}^{-1}$  (B)  $120 \text{ rad s}^{-1}$  (C)  $\pi \text{ rad s}^{-1}$  (D)  $4\pi \text{ rad s}^{-1}$
- (11) When a body moves in a circle, the angle between linear velocity and angular velocity is:-  
 (A)  $0^\circ$  (B)  $90^\circ$  (C)  $45^\circ$  (D)  $180^\circ$
- (12) The ratio of rotational K.E. of a hoop to its translational K.E. is:-  
 (A) 1 : 2 (B) 2 : 1 (C) 1 : 1 (D) 1 : 4
- (13) A 2 metre high tank is full of water. If a hole appears at its middle, then the speed of efflux is:-  
 (A)  $4.4 \text{ ms}^{-1}$  (B)  $10 \text{ ms}^{-1}$  (C)  $6.2 \text{ ms}^{-1}$  (D)  $20 \text{ ms}^{-1}$
- (14) A spring has a spring constant  $K$ . If it is cut in two equal parts, the spring constant of each part will be:-  
 (A)  $K$  (B)  $2K$  (C)  $\frac{K}{2}$  (D)  $4K$
- (15) The speed of stars and galaxies can be calculated by:-  
 (A) Compton Effect (B) Stefan's Law (C) Doppler's Effect (D) Pascal's Law
- (16) A string of length  $\ell$  fixed at both ends is vibrating in two segments, the wavelength of wave is:-  
 (A)  $\frac{\ell}{2}$  (B)  $\ell$  (C)  $2\ell$  (D)  $3\ell$
- (17) Stationary waves are generated on a string of length  $\ell$ . If tension is increased, frequency of vibration will:- (A) Decrease (B) Unchanged (C) Half (D) Increase

## PHYSICS PAPER-I GROUP-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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- (10) The efficiency of a Carnot Heat Engine is 100% if temperature of sink  $T_2$  is:-  
 (A)  $0^\circ \text{C}$  (B)  $0 \text{ K}$  (C)  $0^\circ \text{F}$  (D)  $100 \text{ K}$
- (11) \_\_\_\_\_ is a derived unit.  
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- (12) If  $|\vec{A} \times \vec{B}| = |\vec{A} \cdot \vec{B}|$  then angle between the vectors  $\vec{A}$  and  $\vec{B}$  is:-  
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MAXIMUM MARKS: 17

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**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****PHYSICS PAPER-I GROUP-II (NEW SCHEME) (SESSION 2015-2017)**

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) What is the difference between Base Units and Derived Units?
  - (ii) Explain Scientific Notation.
  - (iii) What is the difference between Absolute uncertainty and Percentage uncertainty?
  - (iv) What are the dimensions and units of gravitational constant "G" in the formula  $F = G \frac{m_1 m_2}{r^2}$ ?
  - (v) Why a null vector can not be added to zero? Explain.
  - (vi) Explain how many minimum number of Geo-stationary satellites are required for global coverage of T.V transmission?
  - (vii) What do you know about Right Hand Rule? Also state it.
  - (viii) Motion with constant velocity is a special case of motion with constant acceleration. Is this statement true? Discuss.
  - (ix) When a bullet is fired from a rifle. Why does the rifle move backward? Discuss it with reference to momentum.
  - (x) What is Impulse? Show that impulse and momentum have same units.
  - (xi) At highest point in the path of a projectile its speed is minimum, why? Explain it.
  - (xii) How the swing is produced in a fast moving cricket ball in air? Explain.
3. **Attempt any eight parts.** **8 × 2 = 16**
- (i) What sort of energy is in the following? (a) compressed spring (b) water in a high dam
  - (ii) A girl drops a cup from a certain height, which breaks into pieces. What energy changes are involved?
  - (iii) What is Conservative Field? Give two statements.
  - (iv) Differentiate between Tangential Velocity and the Angular Velocity, How these are related with each other?
  - (v) Write down at least four uses of Geostationary Satellites.
  - (vi) Define Positive and Negative Angular Acceleration. Give examples for each.
  - (vii) Differentiate between Instantaneous displacement and amplitude in SHM.
  - (viii) In an Oscillating mass spring system if mass is doubled, how its time period will change?
  - (ix) What is a path difference? What should be the path difference for constructive and destructive interference?
  - (x) As a result of a distant explosion, an observer senses a ground tremor first and then hears the explosion. Explain the time difference.
  - (xi) What is the value of frequency and wavelength of waves produced in microwave oven, how it works?
  - (xii) Define Mechanical waves and Electromagnetic waves. Give examples of each.

## 4. Attempt any six parts.

 $6 \times 2 = 12$ 

- (i) What is meant by Wavefront? Give its types.
- (ii) Describe Selective Absorption Method for obtaining plane polarized light.
- (iii) How would you manage to get more orders of spectra using a diffraction grating?
- (iv) What is a Collimator? Why it is named so?
- (v) What is the difference between Multimode step index and Multimode graded index fibre?
- (vi) Write down Postulates of Kinetic Theory of Gases.
- (vii) What is an Isothermal Process? How it is expressed on a PV – diagram?
- (viii) State Carnot Theorem.
- (ix) What is 2<sup>nd</sup> Law of Thermodynamics in terms of Entropy?

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

- 5.(a) Define Scalar Product of two vectors. Also write the characteristics of Scalar Product. 5
- (b) A ball is thrown with a speed of  $30 \text{ ms}^{-1}$  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) What is a Conservative Force? Show that Gravitational force is a conservative force. 5
- (b) The earth rotates on its axis once a day. Suppose by some process, the earth contracts so that its radius is only half as large as at present. How fast will it be rotating then? 3
- 7.(a) State Bernoulli's equation and apply this equation to derive Torricelli's theorem and Venturi Relation.  $1 + 2 + 2 = 5$
- (b) What is the average translational Kinetic Energy of molecules in a gas at temperature  $27^\circ \text{C}$ ? (The value of "K" Boltzman constant is  $1.38 \times 10^{-23} \text{ JK}^{-1}$ ) 3
- 8.(a) How the speed of Sound was calculated by Newton and it was corrected by Laplace? 5
- (b) Find the amplitude, frequency and period of an object vibrating at the end of a spring' if the equation for its position as a function of time  $t$  is given as:-  

$$x = 0.25 \text{ Cos} \left( \frac{\pi}{8} \right) t$$
 3
- 9.(a) Calculate the magnification of simple microscope by using rays diagram. 5
- (b) Light of wavelength  $450 \text{ nm}$  is incident on a diffraction grating on which  $5000 \text{ lines/cm}$  have been ruled. How many orders of spectra can be observed on either side of the direct beam? 3

## PHYSICS PAPER-I GROUP-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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Q.No.1

- (1)  $Kgm^{-1}s^{-2}$  is the unit of:- (A) Force (B) Work (C) Pressure (D) Momentum
- (2) When a force of 100 N is acting on an object along  $x$ -axis then its vertical component will be:-  
(A) 50 N (B) 25 N (C) 10 N (D) 0 N
- (3) A body covers a distance of 10 m in 1 sec with a constant velocity of  $10ms^{-1}$ .  
Acceleration produced by the body is:- (A) Zero  $ms^{-2}$  (B)  $2ms^{-2}$  (C)  $5ms^{-2}$  (D)  $10ms^{-2}$
- (4) When velocity time graph is a straight line parallel to time axis then:-  
(A) Velocity is zero (B) Acceleration is constant (C) Acceleration is zero (D) Velocity is variable
- (5) The numerical value of solar constant is given by:-  
(A)  $1kWm^{-2}$  (B)  $1.4kWm^{-2}$  (C)  $1.67kWm^{-2}$  (D)  $2kWm^{-2}$
- (6) In rotational motion the analogous of mass is:-  
(A) Angular momentum (B) Inertia (C) Moment of inertia (D) Force
- (7) A 60 kg man in an elevator is moving up ward with an acceleration of  $9.8ms^{-2}$ .  
The apparent weight of the man:-  
(A) Increases (B) Decreases (C) Remains constant (D) Becomes zero
- (8) The ratio between the escape velocity and orbital velocity is:-  
(A)  $\sqrt{2} : 1$  (B)  $\sqrt{2} : 2$  (C)  $1 : \sqrt{2}$  (D)  $1 : 1$
- (9) The dimensions of volume flow rate of fluid are:-  
(A)  $[LT^{-1}]$  (B)  $[L^2T^{-2}]$  (C)  $[L^3T^{-1}]$  (D)  $[L^3T^{-2}]$
- (10) When one - fourth of the cycle of a vibrating body is completed then the phase change in it is:-  
(A)  $\frac{\pi}{4}$  radian (B)  $\frac{\pi}{2}$  radian (C)  $\frac{3\pi}{2}$  radian (D)  $\pi$  radian
- (11) Beats are produced due to:-  
(A) Diffraction of sound waves  
(B) Superposition of sound waves (C) Polarization of waves (D) Bernoulli's effect
- (12) If 20 waves passes through the medium in 2 sec with a speed of  $10ms^{-1}$  then the wavelength is:-  
(A) 200 m (B) 2 m (C) 1 m (D) 0.5 m
- (13) The state of human blood flow can be found by using:- (A) Newton's formula of speed of sound  
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(A) Wavelength of light (B) Width of slits  
(C) Slit separation (D) Distance between the slits and the screen
- (15) The formula  $\alpha_{min} = 1.22 \frac{\lambda}{D}$  for resolving power of lens was given by:-  
(A) Newton (B) Michelson (C) Young (D) Rayleigh
- (16) The increase in thermal pollution of environment means:- (A) Increase in the entropy  
(B) Decrease in the entropy (C) Entropy remains constant (D) Entropy becomes zero
- (17) A gas performs 10 J of work while expanding adiabatically. The change in its internal energy is:-  
(A) 10 J (B) -10 J (C) 100 J (D) -200 J

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- (15) If 20 waves pass through the medium in 2 sec with a speed of  $10 \text{ms}^{-1}$  then the wavelength is:-  
 (A) 200 m (B) 2 m (C) 1 m (D) 0.5 m
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- (10) A gas performs 10J of work while expanding adiabatically. The change in its internal energy is:-  
 (A) 10J (B) -10J (C) 100J (D) -200J
- (11)  $Kgm^{-1}s^{-2}$  is the unit of:- (A) Force (B) Work (C) Pressure (D) Momentum
- (12) When a force of 100N is acting on an object along x-axis then its vertical component will be:-  
 (A) 50N (B) 25N (C) 10N (D) 0N
- (13) A body covers a distance of 10m in 1 sec with a constant velocity of  $10ms^{-1}$ .  
 Acceleration produced by the body is:- (A) Zero  $ms^{-2}$  (B)  $2ms^{-2}$  (C)  $5ms^{-2}$  (D)  $10ms^{-2}$
- (14) When velocity time graph is a straight line parallel to time axis then:-  
 (A) Velocity is zero (B) Acceleration is constant (C) Acceleration is zero (D) Velocity is variable
- (15) The numerical value of solar constant is given by:-  
 (A)  $1kWm^{-2}$  (B)  $1.4kWm^{-2}$  (C)  $1.67kWm^{-2}$  (D)  $2kWm^{-2}$
- (16) In rotational motion the analogous of mass is:-  
 (A) Angular momentum (B) Inertia (C) Moment of inertia (D) Force
- (17) A 60 kg man in an elevator is moving up ward with an acceleration of  $9.8ms^{-2}$ .  
 The apparent weight of the man:-  
 (A) Increases (B) Decreases (C) Remains constant (D) Becomes zero



## PHYSICS PAPER-I GROUP-II (NEW SCHEME) (SESSION 2015-2017)

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles 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 question on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) The numerical value of solar constant is given by:-  
 (A)  $1kWm^{-2}$  (B)  $1.4kWm^{-2}$  (C)  $1.67kWm^{-2}$  (D)  $2kWm^{-2}$
- (2) In rotational motion the analogous of mass is:-  
 (A) Angular momentum (B) Inertia (C) Moment of inertia (D) Force
- (3) A 60 kg man in an elevator is moving up ward with an acceleration of  $9.8ms^{-2}$ .  
 The apparent weight of the man:-  
 (A) Increases (B) Decreases (C) Remains constant (D) Becomes zero
- (4) The ratio between the escape velocity and orbital velocity is:-  
 (A)  $\sqrt{2} : 1$  (B)  $\sqrt{2} : 2$  (C)  $1 : \sqrt{2}$  (D)  $1 : 1$
- (5) The dimensions of volume flow rate of fluid are:-  
 (A)  $[LT^{-1}]$  (B)  $[L^2T^{-2}]$  (C)  $[L^3T^{-1}]$  (D)  $[L^3T^{-2}]$
- (6) When one – fourth of the cycle of a vibrating body is completed then the phase change in it is:-  
 (A)  $\frac{\pi}{4}$  radian (B)  $\frac{\pi}{2}$  radian (C)  $\frac{3\pi}{2}$  radian (D)  $\pi$  radian
- (7) Beats are produced due to:-  
 (A) Diffraction of sound waves  
 (B) Superposition of sound waves (C) Polarization of waves (D) Bernoulli's effect
- (8) If 20 waves passes through the medium in 2 sec with a speed of  $10ms^{-1}$  then the wavelength is:-  
 (A) 200 m (B) 2 m (C) 1 m (D) 0.5 m
- (9) The state of human blood flow can be found by using:- (A) Newton's formula of speed of sound  
 (B) Interference of sound (C) Phenomena of beats (D) Doppler's effect of sound
- (10) The fringe spacing in a double slit experiment can be increased by decreasing:-  
 (A) Wavelength of light (B) Width of slits  
 (C) Slit separation (D) Distance between the slits and the screen
- (11) The formula  $\alpha_{min} = 1.22 \frac{\lambda}{D}$  for resolving power of lens was given by:-  
 (A) Newton (B) Michelson (C) Young (D) Rayleigh
- (12) The increase in thermal pollution of environment means:- (A) Increase in the entropy  
 (B) Decrease in the entropy (C) Entropy remains constant (D) Entropy becomes zero
- (13) A gas performs 10J of work while expanding adiabatically. The change in its internal energy is:-  
 (A) 10J (B) -10J (C) 100J (D) -200J
- (14)  $Kgm^{-1}s^{-2}$  is the unit of:- (A) Force (B) Work (C) Pressure (D) Momentum
- (15) When a force of 100 N is acting on an object along x – axis then its vertical component will be:-  
 (A) 50 N (B) 25 N (C) 10 N (D) 0 N
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 Acceleration produced by the body is:- (A) Zero  $ms^{-2}$  (B)  $2ms^{-2}$  (C)  $5ms^{-2}$  (D)  $10ms^{-2}$
- (17) When velocity time graph is a straight line parallel to time axis then:-  
 (A) Velocity is zero (B) Acceleration is constant (C) Acceleration is zero (D) Velocity is variable

**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,  
MULTAN**

**OBJECTIVE KEY FOR INTER (PART-I / II) Annual Examination, 2017.**

Name of Subject Physics  
Group: 1st New Scheme

Session 2015-17  
Group: 2nd

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

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

**سرٹیفکیٹ بابت صحیح سوالیہ پرچہ/مارکنگ Key**

ہم نے مضمون Physics پرچہ I گروپ 1st New ایم اے 2017 کا سوالیہ پرچہ پیش رویشی (Subjective & Objective) کو نظر میں چیک کر لیا ہے یہ پرچہ سلیبس کے مین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو/انگریزی Version بھی چیک کر لیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے 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 بخور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY

Sr.No	Name	Designation	Institution	Mobile No.	Signature
1.	Ali Hussain	Ass. Prof	Govt. Emerson College, Rawat	0300-7381119	
2.	Alsh. Muhammad	Principal	Cyber Salween	0300-8390411	
3.	M. NASIR RASHID		HISHAT COLLEGE	0300-9637403	
4.	Shahmohamed A.P		Govt. W.H.I. College	03077360030	
5.	Syed Mehtab Ali	Asst. Prof	G.C. of Science Multan		
6.	Shabir Saqib		Govt. Civil Lines College	0300-6366219	