SECTION-I.

For Question No 2, 3 and 4, Awasd (02 Marks) for Complete and Correct Explaination or idea / Reason.

Q_2 :-

(i) Any two drawbacks — (02 marks)

(ii) (a) Dimensions of pressure (01 mark) and Dimensions of Density (01 marks) (iii) Two errors (02) marks

(iv) Any two uses or Application of Dimensions (02) marks

(V) No (01 mark) and Briefly Explaination (01 mark)

(Vi) Any Two Conditions of $\vec{A_1} \times \vec{A_2} = 0$ (02 marks)

(Vii) Definition of Null vector (01 mark) Definition of Position vector (01 mark)

(Viii) Discuss of Sign "9" (01) mark) Discuss about velocity (01) mark

(ix) Condition of Parallel (01 mark) Condition of Anti Parallel 01 mark

(X) Definition of uniform velocity (01 mark) and defenition of variable velocity (01) mark)

(Xi) Definition (01 mark) Relation in form of momentum 01 mark.

(Xii) Explaination Briefly. (02 marks)

Q_3

(i) Find out Work in Both Cases (01) and compare (01) mark.

(ii) (a) Energy of Cas. (01) mark (b) Energy of water in dam (01) mark.

(iii). Statement (02 marks)

(iv) Write Formulas of Speed of disc and hoop on inclined plane 01 mark and compare (01 mark)

(V) Explaination (02 marks)

(Vi) Show that $\omega = 2\theta$ (02) Marks

(Vii) Definition of Phase Angle (02 Marks)

(Viii) NO (02 Marks)

(ix) Relation For T.E, P.E and K.E (01 mark)
Discuss at mean and extreme Position (01 mark)

(X) Explaination with Relation $v \propto \sqrt{T}$ OR $V_t = V_o + \cdot 61t$ (02) Marks

(Xi) Any Two Common features (02 marks)

(Xii) Definition of Stationary waves 02 marks

Q4:- (i) Interference. Discuss (01 mark) condition of Interference (01 mark)

(ii) Definition (01 mark) - one use (01) mark)

(iii) Any two Conditions - (02 marks)

(iv) Definition For each - (02) marks

(V) Explain any two method - (02 marks)

(Vi) yes (01 mark) and Explaination (01 mark)

(Vii) Statement For each law (01 + 01 marks)

(Viii) Equation of pressure in K. Theory 01 mark and derivation (01 mark)

(ix) Explaination with Relation (02) Marks

SECTION - II

Q5 (a) Definition of Elastic and Inelastic (01 mark)
Applying law of Conservation of Momentum (01 Mark)
Applying law of Conservation of Energy (K.E) 01 marks
divided and Show Result (02 marks)

(b) Data + Formula-(01 mark), Substitution Values (01 mark)
Calculation of Correct Ans. with units (01) marks

$$\cos\theta = \frac{\vec{A}\cdot\vec{B}}{AB} \Rightarrow \theta = \cos^{-1}\left(\frac{\vec{A}\cdot\vec{B}}{AB}\right), \boxed{\theta = 52^\circ} \text{ Ans.}$$

Q6 (a) Find T. Energy at point A (01 mark)
Find T. Energy at point B (01 mark)
Find T. Energy at point C - (01 mark)
Equation of Loss of P.E and gain K.E (01) mark
Case II air Resistance present (01 mark)

(b) Data + Formula - (01 mark), Sub. Values (01 mark)
Calculation of Correct Ans. with units (01 mark)

$$V = \sqrt{\frac{GM}{r}}, \quad \boxed{T = \frac{2\pi r}{V}}, \quad \boxed{T = 28\text{ days}} \text{ Ans}$$

Q7 (a) Definition of Cp (01) mark, Definition of Cv (01 mark)
prove that $C_p - C_v = R$ - (03 marks)

(b) Data + Formula - (01 mark), Sub. Values (01 mark)
Calculation of Correct Ans. with units (01) mark.

$$r^2 = \frac{V}{4\times\pi\times l} \Rightarrow \boxed{r = \sqrt{\frac{V}{4\pi l}}}, \quad \boxed{r = 0.19\text{ m}} \text{ Ans}$$

OR

$$\boxed{r = 19\text{ cm}} \text{ Ans}$$

Q8(a) Definition + Fig. (01 marks), Derive Relation $a = -g/l\,x$ (02 marks), Derive the Relation angular frequency, $\omega = \sqrt{g/l}$ (01 mark)
Find Time period Relation, $T = 2\pi\sqrt{l/g}$ (01) mark

(b) Data + Formula (01) mark, Sub. Values (01mark)
Calculation of correct Ans with unit- (01 mark)

$$\frac{V_t}{V_o} = \sqrt{\frac{T}{T_o}} \Rightarrow \boxed{T = 1132\,K \text{ OR } T = 859^{\circ}C}$$ Ans

Q9(a) Definition (01) mark, Diagram (01) marks
Explaination - (03 marks)

(b) Data + Formula - (01 mark), Sub Values (01mark)
Calculation of correct Ans. with units (01mark)

$n_1 \sin\theta_c' = n_2 \sin\theta_2$, $\theta_1 = \theta_c' \Rightarrow \boxed{\theta_c' = 57^{\circ}}$ Ans

SECTION - III

Q10(A) If idea/Reason OR Explaination is given in Answer give max marks $2 \times 4 = 8$ marks

(B) Max. marks should be given if Important steps with Formula are written for Brief procedure (03 marks)

(C) **Graph A**

(i) $T^2 \propto l$ OR $l \propto T^2$ 02 marks

(ii) $T = 25$, $T^2 = 45$

$\boxed{l = 99.9\,cm}$ (02 marks) Ans

OR

Graph B

(i) law of Resonant length, (02 marks)
OR
$f \propto \frac{1}{l}$

(ii) $\boxed{l = 16\,cm}$ (02 marks) Ans

ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

تاریخ: 31-05-16 مضمون: Physics پرچہ: I گروپ: II

جنرل ہدایات برائے مارکنگ Key نیو سکیم / اولڈ سکیم (مارکنگ سکیم)

انٹر پارٹ فرسٹ / سیکنڈ سالانہ / ضمنی امتحان 2016ء

For Question No2, 3 and 4, Award (02) Marks For each Part For Complete and Correct Explaination OR idea/Reason.

Q2:-(i) Any Two Phenomens ——— (02 marks)

(ii) Dimension of G-(01mark), S.I unit of G — 01mark

(iii) Show that one yeas = 3.1536×10^{16} ns —— (02 marks)

(iv) Definition of Radian -(01mark) Definition of Steradian (01mark)

(v) Any Two conditions of $\vec{A}_1 \times \vec{A}_2 = 0$ —— (02 marks)

(vi) Explaination ——— (02 marks)

(vii) Definition — (01 mark), Example-(01 mark)

(viii) Discuss sign of "g"-(01 mark), Discuss about velocity-01mark

(ix) yes —— (01mark), Example —— (01 mark)

(x) Explaination ——— (02 mark)

(xi) Statement ——— (02 mark)

(xii) Explaination by $V \propto \frac{1}{A}$ OR $V \propto \frac{1}{P}$ —— (02 marks)

Q3:- (i) Find out Work in Both Cases (01 mark) Compare (01mark)

(ii) Explaination ——— (02 mark)

(iii) Definition (01) mark, prove that 1KWh = 3.6MJ (01mark)

(iv) Explaination ——— (02 marks)

(v) Show that $L_o = m_s V$ ——— (02 marks)

(vi) Definition of Real Wt. (01) mark), Definition of App. Wt -(01 mark)

(vii) Explaination of each Equation (1+1) marks

(viii) Any Two conditions ——— (02 marks)

(ix) Explaination —(02 marks), (x) Explaination — (02 marks)

(xi) NO —— (01 mark), Explaination — (01 mark)

(xii) NO —— (01 mark), Explaination —— (01 mark)

General Instructions

Q4:- i) Any Two Conditions ——— (02 Marks)

(ii) Definition of un-polarized and Polarized (1+1) Marks

(iii) Write two Parts—(02 Marks)

(iv) Explaination ——— (02 Marks)

(v) Definition ——(01 Mark), Explaination ——(01 Mark)

(vi) Explaination ——— (02 Marks)

(vii) Explaination ——— (02 marks)

(viii) Explaination ——— (02 marks)

(ix) NO —— (01 mark), Explaination ——(01 mark)

SECTION—II

Q5 (a) Definition of Elastic and Inelastic —— (01 mark)

Applying law of Conservation of Momentum —— (01 mark)

Applying law of " " Energy (K.E) —— (01 mark)

divided and Show Result (02 mark)

(b) Data + Formula — (01 mark), Sub. Values (01 mark)

Calculation of Correct Ans. with unit (01 mark)

$\boxed{\theta = 120^{\circ}}$ Ans.

Q6 (a) Definition of F_c —(01 mark), Definition of a_c — 01 mark

Derivation of Relation $a_c = \frac{v^2}{r}$ — (02 marks), Derive $F_c = \frac{mv^2}{r}$ 01 mark.

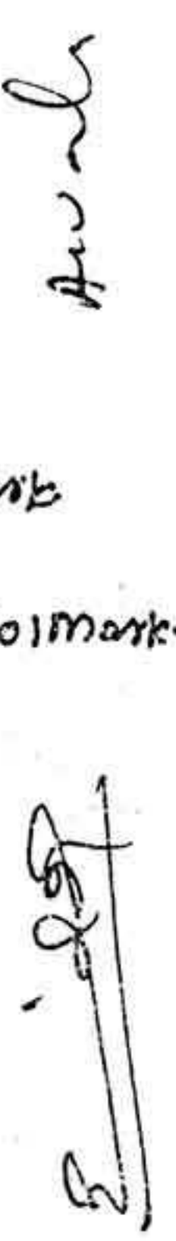
(b) Data + Formula—(01 mark), Sub. Values —— (01 mark)

Calculation of Correct Ans with unit of force and

Ans. of K.E (01) mark

i) $F = \frac{\frac{1}{2}mv_f^2 - \frac{1}{2}mv_i^2}{d} \Rightarrow \boxed{F = -1500\,N}$ Ans.

(ii) K.E decreases and becomes zero due to frictional Force Ans.



Q7 (a) Statement — (01 mark), Derivation with Fig. — (04) marks

(b) Data + Formula (01 mark), Sub Values — (01 mark)

Calculation of Ans with unit (01 mark)

$$\langle v^2 \rangle = \frac{3kT}{m}, \quad \boxed{\langle v \rangle = v_{av} = 493\ m/s}$$ Ans

Q8 (a) Definition — (01 mark), Derivation of Case I — 02 mark.

Desivation of Case (ii) — (02 marks)

(b) Data + Formula — (01 mark), Sub. Values — (01 Mark)

Calculation of correct Ans with units (01 mark)

$$l = \frac{gT^2}{4\pi^2}, \quad \boxed{l = 0.25\ m}$$

Q9 (a) Explaination of diff. types of op. fibres

with diagram (05) marks

(b) Data + Formula — (01 mark), Sub. Values — (01 Marks)

Calculation of correct Ans. with units — (01 mark)

$$d = \frac{m\lambda}{\sin\theta} \Rightarrow \boxed{d = 0.3 \times 10^{-3}\ m = 0.3\ mm}$$ Ans

Q10 (A)

SECTION — III

Q10 (A) 8 if idea/Reason or Explaination is given in Ans. Give max. marks $2 \times 4 = 8$ marks

(B) Max. marks should be given of Important steps with formula are written for Brief procedure 03 mark

(C) Graph — A

General Instructions

(i) Slope $= \frac{0.25}{(cm)^{1/2}}$ Ans. — (02 marks)

(ii) $T = 2s$

$$\boxed{L = 100cm = 1m} \text{ Ans}$$

OR

<u>Graph — B</u>

(i) $Slope = 2 \times 10^{-4} \frac{cm^{-1}}{Hz} = .0002 \frac{cm^{-1}}{Hz}$ Ans

(ii) When
$l = 25cm$, then $\boxed{f = 200 Hz}$ Ans

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(Multan)

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN

OBJECTIVE KEY FOR INTER (PART I / II) Annual Examination, 2016.

Name of Subject PHYSICS Session 2011-2013

Q. Nos.	Paper Code 9471	Paper Code	Paper Code	Paper Code
1.	C			
2.	C			
3.	A			
4.	C			
5.	B			
6.	B			
7.	C			
8.	A			
9.	B			
10.	D			
11.	C			
12.	C			
13.	D			
14.	B			
15.	C			
16.	A			
17.	C			
18.				
19.				
20.				

سرٹیفیکیٹ بابت تصحیح سوالیہ پرچہ/ مارکنگ Key

ہم نے مضمون فزکس پرچہ I گروپ: I سکیم اولڈ انٹر سالانہ / ضمنی امتحان 2016ء کا سوالیہ پرچہ انشائیہ / معروضی (Subjective & Objevtive) کو بنظر عمیق چیک کرلیا ہے یہ پرچہ سلیبس 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 کرلیا 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 تیارہ کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کرلیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY

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