

BOARD OF INTERMEDIATE & SECONDARY EDUCATION, SAHIAL

SUBJECT: Physics EXAM HSSC (2nd Annual) 2022 CLASS: XI
GROUP: I DATE: 21/12/22

GENERAL INSTRUCTIONS FOR MARKING KEY

vii) Two marks for deriving $K.E_{rot} = \frac{1}{2} I \omega^2$ or if student has calculated

value $K.E_{rot} = \frac{1}{2} (\frac{1}{2} m r^2) \omega^2 = \frac{1}{4} m v^2$ (Award two marks)

viii) Two marks for writing $T = W - m a$ for accelerated frames and then

Putting $a = g \Rightarrow T = 0$.

ix) Two marks for explanation using law of conservation of angular momentum (To cover extra Somersaults)

x) Two marks for telling two reasons; $d \sin \theta = n \lambda \Rightarrow n = \frac{d \sin \theta}{\lambda}$; use short

wavelength or a grating with ~~small~~ large value of d

xi) Two marks for telling reason that light is usually horizontally polarized after reflection & polaroid sunglasses reduce glare of such light.

xii) Two marks for telling any two applications i.e. DNA/RNA, Haemoglobin, crystal structure, imperfections in solids etc.

Question No. 4:

i) One mark for definition and one for writing any two parts.

ii) Two marks for Scaled diagram and calculation $\rho = 6.2 \text{ cm}$

iii) One for each effect i.e. $v \propto \frac{1}{\sqrt{S}}$ and $v \propto \sqrt{T}$, $v_L = v_0 + 0.61 \lambda$.

iv) Two marks for writing all $\sqrt{S}$ definitions.

v) Two marks for writing the reason that relative velocity should be zero b/w source and observer.

vi) Two marks for writing any application i.e. Shock absorber in car or dampers in washing machine tub

vii) One mark for each characteristic. ($\alpha - x$)

viii) Two marks for telling about frictional losses due to drag force and support friction.

ix) Two marks for at least two properties i.e. non-viscous, incompressible and steady flow condition.

Question No. 5: a) One for definition, four marks for four

b) $F d = \frac{1}{2} m v^2 - \frac{1}{2} m v_i^2$; $F = 3.6 \times 10^{-15} \text{ N}$ (one for data/formula, two for putting values and answer)

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تم نے درج بالا پروج (انتخابی + عمومی) ادارہ ایات کے حوالے سے مکمل طور پر تصدیق کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔