# BOARD OF INTERMEDIATE EDUCATION, KARACHI

## INTERMEDIATE EXAMINATION, 2016 (ANNUAL)

Date: 03.05.2016
9:30 a.m. to 9:50 a.m.

## PHYSICS PAPER – I

**(Science Groups)**

Max. Marks: 17
Time: 20 minutes

The correct answers are highlighted in red colour.

## SECTION 'A'
## (MULTIPLE CHOICE QUESTIONS) – (M.C.Qs.)

**Code No:PH-05**

Write this Code No. in the Answerscript.

**NOTE:**

i) This section consists of 17 part questions and all are to be answered. Each question carries one mark.
ii) Do not copy the part questions in your answerbook. Write only the answer in full against the proper number of the question and its part.
iii) The code of your question paper is to be written in bold letters in the beginning of the answerscript.
iv) The use of scientific calculator is allowed. All notations are used in their usual meanings.

**1.** Select the most appropriate answer for each from the given options:

i) The range of audible sound is:
* 1 Hz – 19 Hz * **20 Hz – 20000 Hz**
* 21000 Hz – 24000 Hz * 25000 Hz – 50000 Hz

ii) The conditions of interference in thin film are reversed due to:
* Diffraction * Phase coherence * Refraction * **Phase reversal**

iii) The magnifying power of a lens of focal length $\frac{1}{2}m$ is:
* 1 dioptre * **2 dioptres** * 50 dioptres * 100 dioptres

iv) This equation represents Bragg's Law:
* $m\lambda = 2d\sin\theta$ * $m\lambda = d\sin\theta$ * $2m\lambda = d\sin\theta$ * $2m\lambda = 3d\sin\theta$

v) The distance between the principal focus and the optical centre is called:
* Aperture * Radius of curvature * **Focal length** * Principal axis

vi) If $\hat{i}$, $\hat{j}$ and $\hat{k}$ are unit vectors, then $\hat{k}\cdot(\hat{i}\times\hat{j})$ is equal to:
* zero * **one** * $\hat{j}$ * $\hat{k}$

vii) The angle between centripetal acceleration and tangential acceleration in circular motion is:
* $180^o$ * $0^o$ * $90^o$ * $45^o$

viii) Kitabul Manazir was written by:
* **Ibn-Al Haitham** * Al Razi * Abu-Rehan Al Beruni * Jabir bin Hayyan

ix) One radian is equal to:
* $1^o$ * $75.3^o$ * **$57.3^o$** * $0.017^o$

x) One kilo watt hour is equal to:
* $3.6\times10^6\,J$ * $3.3\times10^9\,J$ * $3.9\times10^6\,J$ * $3.6\times10^9\,J$

xi) Two vibrating bodies, having slightly different frequencies, produce:
* Echo * **Beats** * Resonance * Polarization

xii) If $\overline{A}\cdot\overline{B}=0$, $\overline{A}\times\overline{B}=0$ and $\overline{A}\neq0$, then vector $\overline{B}$ is:
* Equal to $\overline{A}$ * Parallel to $\overline{A}$ * Perpendicular to $\overline{A}$ * **zero**

xiii) Kinetic friction is always:
* greater than static friction * equal to static friction
* **less than static friction** * zero

xiv) The dimensions of G are:
* $M^{-1}L^3T^{-2}$ * $M^2L^2T^{-2}$ * $M^{-1}L^2T^{-2}$ * $MLT^{-2}$

xv) If velocity of a body is decreasing, the direction of acceleration is:
* in the direction of velocity * **opposite to the direction of velocity**
* perpendicular to the direction of velocity * $60^o$ to the direction of velocity

xvi) The rate of change of angular momentum is also known as:
* Linear momentum * **Torque** * Force * Energy

xvii) At a distance, equal to twice of the radius of the earth, above the surface of the earth, the value of gravitational acceleration will be:
* One half * One fourth * Four times * **One ninth**

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