BOARD OF INTERMEDIATE EDUCATION, KARACHI

INTERMEDIATE EXAMINATION, 2016 (ANNUAL)

Date: 16.05.2016
9:30 a.m. to 9:50 a.m.

PHYSICS PAPER – II

(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-09

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) In treating localized cancerous tumour, a narrow beam of this is used:

* $\alpha-$rays from Cobalt – 60 * $\beta-$rays from Cobalt – 60
* **$\gamma-$rays from Cobalt – 60** * laser from Cobalt – 60

ii) In an isothermal expansion, the Entropy of the system:

* **Increases** * Decreases * Becomes zero * Remains constant

iii) This is a highly ionizing particle:

* α * β * γ * Proton

iv) If separation between the plates and the area of plates of a parallel plates capacitor are doubled, then the capacity will:

* become fourfold * become One-fourth * become double * **remain the same**

v) A temperature of 50^oC is equal to:

* 105^oF * 60^oF * 122^oF * 120^oF

vi) The electrical energy dissipated as heat in a resistor is:

* V^2R * V^2Rt * I^2Rt * I^2R

vii) A device consisting of ammeter, voltmeter and ohmmeter is called:

* Potentiometer * **Multimeter** * CRO * VTVM

viii) These are Donor impurities:

* Li and Ga * Ge and Si * **Sb and As** * In and Ga

ix) Laser is produced due to the:

* **stimulated emission of radiation** * stimulated absorption of radiation
* spontaneous emission of radiation * spontaneous absorption of radiation

x) The number of electrons in one coulomb is:

* 6.1×10^{20} * 6.1×10^{18} * 6.25×10^{18} * 1.6×10^{19}

xi) This device converts electrical energy into mechanical energy:

* generator * transformer * **electric motor** * transistor

xii) This force is experienced by a current-carrying conductor placed in a uniform magnetic field:

* $\vec{F}=I\left(\vec{l}\times\vec{B}\right)$ * $\vec{F}=I\left(\vec{V}\times\vec{B}\right)$
* $\vec{F}=l\left(\vec{V}\times\vec{B}\right)$ * $\vec{F}=I\left(\vec{E}\times\vec{B}\right)$

xiii) Stefan Boltzmann's law is:

* $E=\sigma T$ * $E=\sigma T^2$ * $E=\sigma T^3$ * $E=\sigma T^4$

xiv) The rest mass of a photon is:

* 1 * –1 * **zero** * infinite

xv) Balmer series of Hydrogen atom spectrum lies in the:

* radiowave region * infrared region * **visible region** * ultraviolet region

xvi) When a nucleus emits a Beta particle, its atomic number:

* **increases** * decreases
* remains the same * sometime increases, sometime decreases

xvii) This device is used to make the path of ionizing particles visible:

* Geiger Muller counter * **Wilson cloud chamber**
* Van Dee Graff Generator * Cyclotron

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