C.U.SHAH UNIVERSITY
Wadhwan City

Subject Code   : 2TE02APH1   Summer Examination-2014   Date: 20 /06/2014
Subject Name:- Applied Physics
Branch/Semester:-Diploma/II   Time:02:00 To 5:00
Examination: Regular

Instructions:-
(**1**) Attempt all Questions of both sections in same answer book / Supplementary
(**2**) Use of Programmable calculator & any other electronic instrument is prohibited.
(**3**) Instructions written on main answer Book are strictly to be obeyed.
(**4**)Draw neat diagrams & figures (If necessary) at right places
(**5**) Assume suitable & Perfect data if needed
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SECTION-I

Que: 1 Answer the following questions.

1) Give the formula of least count of micrometer screw guage.   (1)
2) Define: (a) Wave length, (b) Echo   (2)
3) Give the formula of surface tension and define each term in it.   (2)
4) Give only the name of the properties of light.   (2)

Que: 2 Answer the following questions.

1) Draw the figure of Micrometer screw gauge and give the name of
    Its errors.   (5)
2) Explain contact of angle with neat and clean diagram.   (5)
3) State the difference between transverse and longitudinal waves.   (4)
OR

Que: 2 Answer the following questions.

1) Calculate the volume of a cube from following data:
    (a) The smallest division on main scale = 1.0mm.
    (b) There are 10 equal divisions on vernier scale.
    (c) There is no error in the vernier caliper.
    (d) Observation of cube – (1) Zero of vernier scale coincide with 1.5 cm
                    on main scale.
                (2) 7th division of vernier scale coincides with
                    any other division on main scale.   (5)
2) Explain any one method of production of Ultrasonic waves.   (5)
3) Give the uses of nano technology in the engineering field.   (4)

Que: 3 Answer the following questions.

1) Give the name, units and symbols of the fundamental physical quantity
    according to S.I. system.   .   (7)
2) Explain the Accoustics of buildings and the factors affecting it.   (7)
OR

Que: 3 Answer the following questions.

1) Write a short note on: Red Wood Viscometer. (7)
2) Explain: (a) Reflection
   (b) Polarization. (7)

Que: 4 Answer the following questions.

1) Give the statement of Newton's third law of motion. (1)
2) Explain Semiconductor with energy band gap. (2)
3) Give the statement and formula of Ohm's law. (2)
4) (a) Define: Isotope
   (b) Give the unit of Radioactivity. (2)

Que: 5 Answer the following questions.

1) Give the statement of Newton's second law of motion and derive the
   formula F= ma. (5)
2) Explain extrinsic semiconductor with figure. (5)
3) Explain the phenomenon of Nuclear Fission. (4)

OR

Que: 5 Answer the following questions.

1) State the properties and uses of the α- particles. (5)
2) State the V-I characteristics of P-N junction diode. (5)
3) Explain Coulomb's Inverse square law. (4)

Que: 6 Answer the following questions.

1) Give the recapitulation of the laws of the motion. (7)
2) Explain the characteristic of the PNP semiconductor transistor. State its
   uses too. (7)

OR

Que: 6 Answer the following questions.

1) Explain the series and parallel combination of the resistance. (7)
2) Write a short note on: Nuclear Reactor. (7)

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