Roll No…….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [09]

B. SC. Operation Theater Technology (Semester –2nd)
APPLIED PHYSICS
Subject Code: BOTTS1-204
Paper ID: [20131908]

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a. Define specific heat capacity.
b. Define Newton's law of cooling.
c. Liquids generally have low density as compared to solids, but ice floats on water why?
d. What do you mean by gram molecular weight?
e. What do you mean by neutral temperature of a thermocouple?
f. Write down the types of pressure gauges?
g. Why are metals good for keeping hot water while poor conductors are good for cold water?
h. What do you mean by ambient pressure?
i. What do you mean by deflagration? Write down its types also.
j. What do you mean by heat and temperature?

Section – B **(5 marks each)**

Q2. State and prove Bernoulli's theorem. Give any five applications of Bernoulli's theorem.

Q3. Define energy? Write down the types of energy with suitable examples.

Q4. What are the different modes of transfer of heat? And explain the following
(a) Conduction (b) Convection(c) Thermal Conductivity

Q5. Elaborate gas laws with examples and write down their applications also.

Q6. What do you mean by Dalton's law of partial pressure? Elaborate it with examples.

Section – C **(10 marks each)**

Q7. Explain the followings:
(i) What do you mean by fluids flow? What is the significance of fluid flow?
(ii) What is the difference between streamline flow and turbulent flow?

Q8. Explain the followings:
(i) How can we prevent home explosions? Explain your views with suitable examples?
(ii) Differentiate between thermistor and a thermocouple?

Q9. Explain the followings:
(i) Differentiate osmosis and diffusion process with some real life examples?
(ii) What do you mean by isotonic solution?