

NGM COLLEGE (AUTONOMOUS) POLLACHI
END-OF-SEMESTER EXAMINATIONS: MAY - 2023
B.Sc. – PHYSICS
VI SEMESTER
MAXIMUM MARKS: 50
TIME: 2 HOURS

PART-IV

SKILL BASED ELECTIVE PAPER-II

ENVIRONMENTAL INSTRUMENTATION

SECTION – A (10 X 1 = 10 MARKS)

ANSWER ALL THE QUESTIONS.

MULTIPLE CHOICE QUESTIONS:

1. In pressure thermometers when mercury is used, the bulb and capillary should be made of _____
(a) Copper (b) alloys of copper (c) stainless steel (d) none of the above
2. Radiation pyrometers are used in the temperature range of _____ (K1)
(a) 0 – 500°C (b) 500 – 1000°C (c) 250 – 500°C (d) 1200 – 2500°C
3. The radiations emitted by hot bodies are called as _____ (K1)
(a) X-rays (b) Black-body radiation (c) Gamma radiations (d) Visible light
4. In Ionization chambers the tube is operated at a much _____ (K1)
(a) Higher voltage (b) Lower voltage (c) Zero voltage (d) None of the above
5. What are the agents that bring about such an undesirable change (pollution) are called _____ (K1)
(a) Pollutants (b) Haptens (c) Adjuvants (d) Vaccine

SHORT ANSWER QUESTIONS

6. What you mean by thermistors? (K2)
7. Define Pyrometer. (K2)
8. Write any two pressure measuring Instruments. (K2)
9. Give any two equipments which are detected for nuclear radiations? (K2)
10. Expand ppm. (K2)

(CONTD.....2)

SECTION – B**(5 X 8 = 40 MARKS)****ANSWER ANY FIVE.**

11. Classify the temperature measuring devices by mechanical and electrical effects. (K3)
12. Discuss quartz crystal thermometer and liquid crystal thermography in detail. (K3)
13. Define blackbody radiation. Describe the radiation reactive elements. (K3)
14. Explain the theory of Infrared pyrometer. (K3)
15. Discuss in detail about Bridgmann and McLeod pressure measurements. (K3)
16. Explain the process of general air sampling train with a neat diagram. (K3)
17. Describe the construction and working principles of
 - (i) The Geiger - Muller counter
 - (ii) Ionization chamber (K3)
18. Write about combustion product measurements using Orsat apparatus. (K3)

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