



23/3/17

DOON UNIVERSITY, DEHRADUN
Mid Semester Examination, Fourth Semester, 2016-17
School of Physical Sciences
Core test paper of 5 Year (Integrated) MSc Program
Course: PHS-254: Basic Instrumentation Skills

Time Allowed: 2Hours

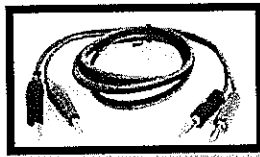
Maximum Marks: 30

Note: Attempt All Questions from Sections A, B, C.

SECTION: A

(Marks: 10)

1. When a high resistance is connected in series with a galvanometer it becomes _____.
2. Sensitivity of a multimeter is given in _____.
3. A cathode ray tube converts _____ signal into _____.
4. Explain the purpose of COM in digital multimeter.
5. If the full scale deflection current of multimeter is of $50 \mu\text{A}$, calculate its sensitivity.
6. What is voltmeter? Elaborate the types of voltmeter.
7. Name the clips



SECTION: B

(Marks: 10)

8. What is electronic voltmeter? Explain through circuit diagram. What are its advantages?
9. How would you convert multimeter as ammeter and multimeter as ohmmeter? Elaborate in detail.
10. Write the short note on following:
(a) Digital multimeter (b) VTVM

SECTION: C

(Marks: 10)

11. Explain the construction and working of cathode ray tube.
12. Draw the block diagram of digital voltmeter with explanation.
13. It is required to convert a 5mA meter with 20Ω internal resistances in to a 5A ammeter. Calculate the value of shunt resistance.