

TM154570A

Reg. No:.....

Name:.....

M. Sc. DEGREE (C.S.S.) EXAMINATION, MARCH 2017

SEMESTER IV- CORE (PHYSICS)

PH4EA3TM - INSTRUMENTATION AND COMMUNICATION ELECTRONICS

Time: Three Hours

Maximum Marks: 75

PART A

I. Answer any five questions. Each question carries 3 marks

1. What is a thermistor? Explain negative temperature coefficient of resistance?
2. Explain the working of digital PH meter
3. What do you meant by an ohm meter?
4. How a CRO is superior to ordinary measuring instruments?
5. What do you meant by single side band frequencies?
6. What is a monopole antenna?
7. Explain the advantages of digital transmission of signals over analog transmissions?

(5x3=15)

PART B

II. Answer any six questions. Each question carries 5 marks

8. Explain piezoelectric transducers?
9. What are Hall Effect transducers? Explain its applications?
10. Briefly explain different types of mechanical transducers?
11. What is the principle behind the working of a stroboscope? Explain the operational of an electronic stroboscope?
12. Briefly explain the working of a digital XY plotter?
13. How does a radio plasma imager operate?
14. What are the advantages of LED Television over CRT Television?
15. With neat diagram, discuss how an AM signal is generated?
16. Explain time division multiplexing?

(6x5=30)

PART C

III. Answer any two questions. Each question carries 15 marks

17. What are transducers? With necessary diagrams, explain the working of electrical and resistive transducers? Mentions its applications?
18. Explain the working of a differential voltmeter and chopper type differential DC amplifier voltmeter
19. Draw the composite video waveform at the end of either field, labeling all the pulse shown. Describe the functions of chroma stages in a television receiver from the chroma detector to the picture tube point
20. Define and explain information theory? What are the aims of information theory? Explain mathematical definition of information?

(2x15=30)