

(6 pages)

Reg. No. :

Code No. : 20568 E Sub. Code : SSPH 4 A

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2021.

Fourth Semester

Physics

Skill Based Subject - MAINTENANCE OF
ELECTRONIC APPLIANCES

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

SECTION A — ($10 \times 1 = 10$ marks)

Answer ALL questions.

Choose the correct answer.

1. A resistor is colour coded brown, black, orange, gold. The value of the resistance is
 - (a) $(1K \pm 5\%) \Omega$
 - (b) $(10K \pm 5\%) \Omega$
 - (c) $(1K \pm 10\%) \Omega$
 - (d) $(10K \pm 10\%) \Omega$

2. A good solder's composition is an alloy of
- (a) 60% lead, 40% tin (b) 50% lead, 50% tin
 - (c) 40% lead, 60% tin (d) 90% lead, 10% tin
3. A multimeter consumes power from battery inside during measurement of
- (a) Resistance (b) Capacitance
 - (c) A.C voltage (d) D.C. voltage
4. Example of A.F. oscillator is
- (a) Hartley oscillator
 - (b) Colpitt's oscillator
 - (c) Phase shift oscillator
 - (d) All the above
5. PVCs convert
- (a) Voltage into current
 - (b) Current into voltage
 - (c) Light into electricity
 - (d) Electricity into light

6. LVDT works on the principle of
- (a) Op-amp
 - (b) Self induction
 - (c) Lorentz force
 - (d) Newton's third law
7. Dish antennas are mostly used for transmission of
- (a) long wavelength radio waves
 - (b) microwaves
 - (c) short wavelength radio waves
 - (d) sound waves
8. Which absolute value does -3dB correspond to in terms of power?
- (a) 1
 - (b) 0.5
 - (c) 0.1
 - (d) 10^{-3}
9. Electronic flash memory data storage device used for storing digital information
- (a) Tripod
 - (b) Flash card
 - (c) Memory card
 - (d) Flash drive

10. Which of the following apertures will allow the most light through the lens?

(a) $\frac{f}{5.6}$

(b) $\frac{f}{1.4}$

(c) $\frac{f}{11}$

(d) $\frac{f}{2}$ second

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe potential divider arrangement and give any two of its applications.

Or

(b) What is soldering? Describe how you would achieve good soldering.

12. (a) Describe how you would detect a faulty capacitor.

Or

(b) Write a note on comparison of LCD displays with LED displays.

13. (a) Give the basic requirements of a transducer.

Or

- (b) Describe a semiconductor I.C. sensor and its functioning.

14. (a) Explain antenna direction gain, directivity and antenna gain.

Or

- (b) What is ISDN? Explain the network arrangements in ISDN.

15. (a) What are the various types of filters used in Photography?

Or

- (b) Describe in detail the 'exposure triangle'.

SECTION C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe various types of resistors and give their characteristics.

Or

- (b) Describe how printed circuit board is prepared and used.

17. (a) Give the block diagram of a C.R.O. and explain the function of each unit in it.

Or

- (b) Giving neat circuit diagram, explain the functioning of an R.F. oscillator.

18. (a) Describe, with neat sketch, capacitive transducer of variable air gap type.

Or

- (b) Explain measurement of temperature with RTD.

19. (a) What is a modem? Describe its working with a block diagram. What are its applications?

Or

- (b) Describe the parts of mobile phone with neat sketch. Explain the principle of its operation.

20. (a) Describe the various parts of a camera giving neat sketch.

Or

- (b) Describe with a sketch, the parts of a digital camera. Explain its working.