

Electronic Science Department

Kurukshetra University Kurukshetra

Instructions to the candidates for the entrance test for M.Sc. (Electronic Science)

There will be 50 questions of Multiple Choice type, each carrying 2 marks. All are to be attempted.

The syllabus for the entrance test will comprise of the topics in the subjects of Electronics, Mathematics, Physics, Chemistry, Computers of B.Sc. Level. The majority of the questions will be from Electronics. In addition, there may be some questions of Conceptual and General aptitude type.

Some Sample Questions are given below:

1. Major part of the current in an intrinsic semiconductor is due to the :

- (a) conduction band electrons
- (b) valance band electrons
- (c) holes in the valance band
- (d) thermally generated electrons

2. Without a dc source, a clipper acts like a :

- (a) rectifier
- (b) clamper
- (c) demodulator
- (d) chopper

3. The DC load line of an amplifier circuit:

- (a) has a positive slope
- (b) clamper
- (c) does not contain the Q-point
- (d) has a negative slope

4. A 100 Watt, 220 V bulb runs on a 110 V supply line. The power consumer is:

- (a) rate of frequency variation
- (b) amplitude of frequency shift
- (c) area of transmission
- (d) distance of broadcast

5. The field effect transistor (FET) is a :

- (a) current controlled device
- (b) voltage controlled device
- (c) both current and voltage controlled device
- (d) neither current controlled nor voltage controlled device

6. The VHF band is :

- (a) 30 Hz-300Hz
- (b) 300Hz-3kHz
- (c) 3kHz-30kHz
- (d) 30kHz-300kHz

7. The passive network has :

- (a) no voltage source but current source
- (b) no current source but voltage source
- (c) no voltage or current source
- (d) none of the above

8. Which of the following is a 8 bit microprocessor:

- (a) Intel 8085
- (b) Intel 8086
- (c) Ziglog 80
- (d) Motorola 6800

9. The wavelength of microwave at 100 GHz will be :

- (a) 3 cm
- (b) 0.3 cm
- (c) 0.03 cm
- (d) 0.3 m

10. When positive feedback amplifiers are used as oscillator, the condition $AB = 1$ is known as:

- (a) Barkhausen criterion of oscillation
- (b) Parkinson criterion of oscillation
- (c) Positive criterion of oscillation
- (d) none of these

11. Antimony and phosphorous are the impurities added to make a semiconductors:

- (a) donor, acceptor respectively
- (b) acceptor, donor respectively
- (c) donor, donor respectively
- (d) acceptor, acceptor respectively

12. The concept of nucleus was given by :

- (a) Thomson
- (b) Rutherford
- (c) Bohr
- (d) Balmer

13. The units for the deflection sensitivity of a CRO are:

- (a) metre/volt
- (b) mm/volt
- (c) mm/m-volt
- (d) mm/volt

14. Two convex lenses made of flint glass and of focal length 20 cm and 40 cm will become achromatic, if the distance between them is :

- (a) 10 cm
- (b) 20 cm
- (c) 30 cm
- (d) 60 cm

15. The most important component of a microcomputer is :

- (a) RAM
- (b) ROM
- (c) CPU
- (d) I/O device