**ELECTRONICS MECHANIC:-**

**MCQ:-**

1. In a transistor when base-width decreases with increasing collector to base voltage, this phenomenon is called

**a) Early Effect**

b) Thermal Runaway

c) Tunneling

d) Pinch-off

2. An amplifier has a voltage gain of 100. To reduce distortion, 10% negative feedback is employed. The gain of the amplifier with feedback is

a) 1.01

b) 9.09

**c) 90.9**

d) 101

3. The internal impedence of an ideal current source is

**a) Zero**

b) Low

c) High

d) Infinity

4. The condition for reciprocity of a two port network is

**a) AD - BC = 1**

b) AD - BC = 0

c) A = D

d) B = C

5. If the load impedance connected to a transmission line of characteristic impedance 50 ohms is 150 ohms, its reflection coefficient is

**a) 0.5**

b) 2

c) -2

d) -0.5

6. The charge contained in an electron is

a) 9.107 x 10^-31 Coulomb

**b) -1.6 x 10^-19 Coulomb**

c) -1.76 x 10^11 Coulomb

d) 3.2 x 10^32 Coulomb

7. Most commonly used materials as photo cathode for the photoelectric emmission are

a) Barium and Calcium

b) Cesium and Rubidium

**c) Arsenic and Boron**

d) Thorium and Tungston

8. Clipper circuits are used to obtain any one of the following waveforms

a ) Sharper

b) Rectified

c) Fast Rising

**d) Smaller Amplitude**

9. A pulse amplifier is basically an amplifier with

a) Wide Band

b) IF

**c) Narrow Band**

d) Audio Band

10. Linearity of time base waveforms can be improved by using

**a) Larger time constant**

b) High gain

c) Larger value components

d) Larger power supply voltages

11. An ideal power supply is characterized by

a) Very large output resistance

b) Very small output resistance

**c) Zero internal resistance**

d) Infinite internal resistance

12. Voice signal frequency lies between

a) 0 -> 20 KHz

b) 15 KHz -> 1 MHz

**c) 15 Hz -> 15 KHz**

d) None of these

13. A complex wave form made up frequency components 1 Hz, 3 Hz, 5 Hz, 7 Hz and 9 Hz. Its fundamental frequency is

a) 9 Hz

b) 12.5 Hz

**c) 1 Hz**

d) Indeterminate

14. A sawtooth waveform is made up of

a) All odd harmonics

b) All even harmonics

**c) All odd and even harmonics**

d) None of these

15. A square wave form applied to a differentiator circuit gives positive and negative spikes. Is it true?

**a) Yes**

b) No

c) Not necessarily

d) None of these

**QUIZ**:-

1. In a mercury arc rectifier -------------------.

1. **Ion stream moves from cathode to anode**
2. Current flows from cathode to anode
3. Electron stream moves form anode to cathode
4. Ion stream moves from anode to cathode

2. For producing cathode spot in a mercury arc rectifier

1. An auxiliary electrode is used
2. Tube is evacuated
3. Low mercury vapour pressures are used
4. **Anode is heated**

3. If the voltage of anode B is raised to 510 V -----------.

**a) Anode B will conduct but anode A will also continue to conduct**

b) Anode B will not conduct but anode A will continue to conduct

c) Both anodes will not conduct

d) None of these

4. Ripple frequency of full wave rectifier working on 50 Hz supply will be -----------.

**a) 25 Hz**

b) 150 Hz

c) 6 anode rectifier with inter phase transformer

d) All will have identical power factor

5. The form factor for half-wave rectifier sine wave is ---------------.

a) 1.05

b) 1.15

c) 1.45

**d) 1.57**

6. A silicon controlled rectifier is a ---------------.

1. Unijuction device
2. **Device with three junctions**
3. Device with four junctions
4. None of the above

7. For full-wave rectifier sine wave, form factor is ---------------.

a) 1.55

b) 1.44

c) 1.22

**d) 1.11**

8. At absolute zero temperature a semi-conductor behaves as ---------------.

1. **An Insulator**
2. A Super-Conductor
3. A Good Conductor
4. A Variable Resistor

9. An electron in the conduction band ---------------.

1. **Has higher energy than the electron in the valence band**
2. Has lower energy than the electron in the valence band
3. Loses its charge easily
4. Jumps to the top of the crystal

10. The maximum I or V on the modulated carrier wave is 5 units and minimum is 3 units. The percentage of modulation will be equal to ---------------.

1. 100
2. 80
3. 50
4. **25**

11. An oscillator at 4.2 MHz is followed by two frequency doublers and two triplers. The ouput frequency will be ---------------.

1. 84 MHz
2. 112.4 MHz
3. **151.2 MHz**
4. 303.4 MHz

12. Tuned voltage amplifiers are not used ---------------.

1. Radio Receivers
2. **In public address system**
3. TV Receivers
4. None of these

13. Tropospheric scatter is used in the following range

1. HF
2. **VHF**
3. UHF
4. VLF

14. The function of padders in radio receiver is to improve

1. Sensitivity
2. Rejection of Image Frequency
3. Noise Reduction
4. **Tracking**

15. The fidelity of a receiver is primarily dependent upon

1. Local Oscillator
2. Detector Stage
3. IF Amplifier
4. **Audio Amplifier**

**FAQ:-**