



1. **Optical fiber sensors are electrically \_\_\_\_\_**
  - a) **passive**
  - b) active
  - c) active as well as passive
  - d) cannot be determined
  
2. **Optical fiber sensors are not immune to electromagnetic disturbances.**
  - a) True
  - b) **False**
  
3. **On the bases of application of optic fiber sensor, which of the following is not considered to be the classification of fiber optic sensor?**
  - a) biomedical/photometric sensors
  - b) physical sensors
  - c) **thermal sensors**
  - d) chemical sensors
  
4. **Monnit temperature sensor is used for what?**
  - a) Accurate results
  - b) To measure the temperature at high degree
  - c) Pressure sensor
  - d) **Temperature sensor**
  
5. **A \_\_\_\_\_ is thermally sensitive resistor that exhibits a large change in resistance.**
  - a) **Thermistor**
  - b) Resistance Thermometer
  - c) Thermo couple
  - d) Semiconductor based sensor
  
6. **\_\_\_\_\_ have been utilized in thermostats for years. They are mechanically connected to a switch, such as a mercury switch, to control heaters.**
  - a) Unimetal

- b) Bimetallic**
- c) Trimetallic
- d) Quadrametallic

**7. Optical radiations involve \_\_\_\_\_**

- a) optoelectric devices**
- b) biological devices
- c) mechanical devices
- d) chemical devices

**8. Photoelectric transducers consist of \_\_\_\_\_**

- a) 1 transducer
- b) 3 transducers**
- c) 5 transducers
- d) 10 transducers

**9. Photoconductive transducers produce output \_\_\_\_\_**

- a) due to change in inductance
- b) due to change in light
- c) due to change in resistance**
- d) due to change in temperature

**10. Commonly used photoemissive material is \_\_\_\_\_**

- a) gold
- b) opium
- c) tellurium
- d) cesium-antimony**

**11. Phototubes are very quick in response to light.**

- a) True**
- b) False

**12. Photoconductors are made of \_\_\_\_\_**

- a) thick layer of semiconductor
- b) thin layer of semiconductor**
- c) capacitive substrate
- d) inductive substrate

**13. When an open circuited pn junction is illuminated then \_\_\_\_\_**

- a) resistance increases
- b) there is no effect
- c) electron hole pairs are formed**
- d) capacitance increases

**14. Response time for gas-filled phototubes is \_\_\_\_\_**

- a) zero
- b) intermediate
- c) fast
- d) slow**

**15. In photo emissive transducers, electrons are attracted by \_\_\_\_\_**

- a) Cathode
- b) Anode**
- c) Grid
- d) Body

**16. Why inert gas is used in photo electric transducers?**

- a) To increase efficiency
- b) To increase sensitivity**
- c) To increase robustness
- d) None of the mentioned

**17. Which of the following quantities are insensitive to solid state semiconductor photoelectric transducers?**

- a) X ray
- b) Gamma ray
- c) Alpha and beta rays
- d) None of the mentioned**

**18. LDR's are also called \_\_\_\_\_**

- a) Photo voltaic cell
- b) Photo resistive cell**
- c) Photo emissive cell
- d) All of the mentioned

**19. Semiconductor layer using silicon and germanium is known as \_\_\_\_\_**

- a) Photo diodes
- b) Photo junction diodes**
- c) Photo material
- d) Photo sensitive materials

**20. OTDR stands for \_\_\_\_\_**

- a) Optical time domain reflectometer**
- b) Optical transfer data rate
- c) Optical time data registers
- d) None of the mentioned

**21. Which of the following is not correct for fibre optic sensors?**

- a) Immune to electro magnetic interference
- b) Immune to radiation hazard
- c) Can be used in harsh environments
- d) None of the mentioned**

**22. Fluoride glass is used with \_\_\_\_\_**

- a) IR waves**
- b) UV rays
- c) Normal light
- d) All of the mentioned

**23. General spectral range for silica glass is \_\_\_\_\_**

- a) Less than 200 nm
- b) Between 200 nm to 2200 nm**
- c) Between 2000 nm to 5000 nm
- d) Greater than 3000 nm

**24. Epoxy material in fibre optics is intended for \_\_\_\_\_**

- a) Better optical properties
- b) Better reflection
- c) Better sealing**
- d) Reducing noise

**25. Loss associated with plastic fibre is less than glass fibres.**

- a) True
- b) False**

**26. Cladding in glass fibre have high refractive index than the core.**

- a) True
- b) False**

**27. How many coils are required to make LVDT?**

- a) 4
- b) 6
- c) 3**
- d) 2

**28. A chemical transduction system is interfaced to the optical fibre at its end. This type of sensor is called?**

- a) chemical sensor**
- b) thermal sensor

- c) photoelectric sensor
- d) light sensor

**29. SAW stands for \_\_\_\_\_**

- a) Sound actuated wave
- b) Surface acoustic wave**
- c) Sound activated wave
- d) Surface activated wave

**30. Quartz can be used as bio sensors.**

- a) True**
- b) False

**31. Direction of acoustic wave in QCM will be \_\_\_\_\_**

- a) Same as crystal surface
- b) Opposite to crystal surface
- c) Perpendicular to crystal surface**
- d) None of the mentioned

**32. Basically sound waves are \_\_\_\_\_**

- a) Voltage signals
- b) Pressure waves**
- c) Current
- d) Radiation

**33. Which of the following is not a character of a sensor of a sound wave?**

- a) Causes no health hazard
- b) They are suitable in a harsh environment
- c) They are only suitable in cold environment**
- d) They can be used in corrosive environment

**34. Sound waves are similar to light waves in all aspects.**

- a) True
- b) False**

**35. SONAR stands for \_\_\_\_\_**

- a) Sound navigation and ranging**
- b) Sound number approximation and ranging
- c) Sound nullifying ranging
- d) None of the mentioned

**36. Which of the following type sound generators are not possible?**

- a) Piezo electric

- b) Magnetostrictive
- c) Both piezo electric and magnetostrictive
- d) None of the mentioned**

**37. Piezo electric materials are well cut for \_\_\_\_\_**

- a) Good dimension
- b) Good coupling coefficient**
- c) Compact shape of device
- d) Increasing frequency

**38. Which of the following can be used in sonar?**

- a) ADP
- b) Rescelle salt
- c) ADP and Roscelle salt
- d) ADP and Roscelle salt in sealed condition**

**39. Magnetostriction transmitter uses \_\_\_\_\_**

- a) Electrostrictive phenomena
- b) Horizontal vibration of nickel tube
- c) Longitudinal vibration of nickel tube**
- d) All of the mentioned

**40. MEM stands for \_\_\_\_\_**

- a) Macro electro magnetism
- b) Macro electro mechanism
- c) Micro electro mechanism**
- d) Micro electro magnetism

**41. Which of the following represents the inverse transducer of a microphone?**

- a) Micro speaker**
- b) Pressure transducer
- c) Bourden element
- d) All of the mentioned

**42. Which of the following provides high thermal stability as bimorph?**

- a) Silicon nitride
- b) Parylene D**
- c) Silicon oxide
- d) None of the mentioned

**43. Polymer thick film can act as a sensing element.**

- a) True**
- b) False

**44. Which of the following is not a polymer matrix?**

- a) Epoxy resin
- b) Silicon resin
- c) Phenolic resin
- d) None of the mentioned**

**45. Which of the following is not a conductive paste?**

- a) Copper
- b) Carbon particles**
- c) Silver particles
- d) None of the mentioned

**46. PZT stands for \_\_\_\_\_**

- a) Poly zirconate titanate
- b) Lead zirconate tartarate**
- c) Poly zirconate trioxide
- d) Poly zirconate tetranitrate

**47. The nano materials are used in the light emitted electro luminescence devices.**

- a) True**
- b) False

**48. The synthesized magnetic nano particles from \_\_\_\_\_ have been found to self-arrange automatically.**

- a) Zinc
- b) Copper
- c) Iron**
- d) Zirconium

**49. The nano particles from iron and palladium are used to produce \_\_\_\_\_**

- a) Magnets
- b) Magnetic lens
- c) Magneto meters
- d) Magnetic storage devices**

**50. Nano particles target the rare \_\_\_\_\_ causing cells and remove them from blood.**

- a) Tumour**
- b) Fever
- c) Infection
- d) Cold

**51. Coating the nano crystals with the ceramics is carried that leads to \_\_\_\_\_**

- a) Corrosion

**b) Corrosion resistant**

c) Wear and tear

d) Soft

**52. \_\_\_\_\_ of ceramic components are easier through nano structuring.**

a) Lubrication

b) Coating

**c) Fabrication**

d) Wear

**53. What is the wavelength of light produced by He-Ne laser in laser inspection?**

a) 6988 Å

b) 5328 Å

c) 5928 Å

**d) 6328 Å**

**54. Which technique is not suitable to measure large diameter parts or large gaps?**

**a) Diffraction pattern technique**

b) Scanning laser technique

c) Photodiode array imaging

d) Laser triangulation sensor

**55. Which of the following is true about resolution in two frequency laser interferometer?**

a) Straightness resolution – 90 nm

b) Angular resolution – 3 arc seconds

c) Flatness resolution – 2 nm

**d) Linear resolution – 1 nm**

**56. How much accuracy can be achieved by photodiode array imaging?**

**a) ±0.05 μm**

b) ±0.15 μm

c) ±0.5 μm

d) ±0.25 μm

**57. The location of the image spot directly depends on which factor in laser triangulation sensor technique?**

a) Wavelength of laser

b) Measuring range

**c) Standoff distance**

d) Focal length of lense

**58. Which of the following defines smartness of sensor?**

**a) Quality of data**



- b) Circuit size
- c) Circuit components
- d) All of the mentioned

**59. Input data of smart sensor will be \_\_\_\_\_**

- a) Analog**
- b) Digital
- c) Analog and digital
- d) None of the mentioned

**60. Which of the following represents network bus?**

- a) Instrumentation contact
- b) Field instrumentation bus**
- c) Data bus
- d) Bit line contact

**61. Input signal to smart sensor is fed from \_\_\_\_\_**

- a) Power supply
- b) Transducer**
- c) Volt meter
- d) All of the mentioned

**62. A/D conversion is not needed in the smart sensor.**

- a) True
- b) False**

**63. \_\_\_\_\_ handle mathematical operations necessary to deliver the output signal.**

- a) Small sensors
- b) Mat sensors
- c) Soft sensors**
- d) Super sensors