

Objective Questions for Online Practical Exams under CBCS Scheme

Subject: Physics (PH-110)

1. Laser is abbreviation used for:
 - a) Name of scientist
 - b) Light amplification by stimulated radiation of radiation
 - c) Light amplification by spontaneous radiation of radiation
 - d) Light absorption by sun and earth radiation
2. A laser is a coherent source because it contains:
 - a) Many wavelengths
 - b) Uncoordinated wave of a particular wavelength
 - c) Coordinated waves of a particular wavelength
 - d) None of these
3. A laser beam is monochromatic. It means it has:
 - a) Single frequency
 - b) Narrow width
 - c) wide width
 - d) several colours
4. The population inversion in He-Ne laser is produced by:
 - a) Photon excitation
 - b) Inelastic atomic collisions
 - c) Chemical excitation
 - d) Chemical reaction
5. In He-ne laser, the most favourable ratio of helium to neon for satisfactory laser action is:
 - a) 1:7
 - b) 7:1
 - c) 1:10
 - d) 10:1
6. The He-Ne laser emits the following wavelength (in Å):
 - a) 6943
 - b) 1064
 - c) 6328
 - d) 1060
7. Optical fibres are made of:
 - a) Metallic conductor
 - b) Dielectric material
 - c) Plastic doped with metallic impurities
 - d) Magnetic oxides
8. The numerical aperture of an optical fibre depends on:
 - a) Core refractive index
 - b) critical angle
 - c) both (a) and (b)
 - d) none of these
9. Angle of acceptance is maximum when:
 - a) the critical angle is minimum
 - b) the critical angle is zero
 - c) the critical angle is maximum
 - d) the critical angle is negative
10. In optical fibre, dispersion means
 - a) Pulse distortion
 - b) Pulse narrowing
 - c) pulse broadening
 - d) pulse rise time
11. Two sources of light are said to be coherent if waves produced by them have the same:
 - a) Wavelength
 - b) wavelength and constant phase difference

23. A solar cell is:
- a thermal detector based on pyroelectric effect
 - a quantum detector based on photoconductive effect
 - a quantum detector based on photovoltaic effect
 - a quantum detector based on charge coupled concept
24. The energy band gap in a certain material is 4 eV. The material is:
- Conductor
 - thermistor
 - semiconductor
 - insulator
25. If the forward bias of a diode is increased, the length of depletion layer will:
- decrease
 - increase
 - does not change
 - none of these.
26. The depletion region consists of:
- Immobile acceptor ions
 - neutral atoms
 - immobile donor ions
 - all the above
27. The P-N junction diode converting ac into dc is called:
- | | |
|-----------|---------------|
| Rectifier | b) oscillator |
| Amplifier | d) modulator |
28. The solar or photo voltaic cell converts:
- Chemical energy to electrical energy
 - Solar radiation into electrical energy
 - Solar radiation into thermal energy
 - Thermal energy into electrical energy
29. Solar cells are made of:
- Aluminium
 - Germanium
 - Silicon
 - Cadmium
30. The efficiency of solar cells is about:
- 25%
 - 15%
 - 40%
 - 60%
31. The output of solar cells is of the order of:
- 0.5 watts
 - 1.0 watts
 - 5.0 watts
 - 10 watts
32. Which of the following area is preferred for solar power plants:
- Coastal areas
 - Hot arid zones
 - Mountain tops
 - High rainfall zones
33. Most of the solar radiation received on the earth surface is within the range of:
- 0.25 to 0.4 micron
 - 0.4 to 0.8 microns
 - 0.6 to 0.95 microns
 - 0.1 to 0.25 microns
34. The energy radiated by the sun in bright sunny day is about:
- 2.5 kW/m²
 - 1.0 kW/m²
 - 500 W/m²
 - 200 W/m²
35. The most important source of heat on Earth is:
- | | |
|------------------------------------------------------|--------------------------------------|
| a) Friction connected with the rotation of the Earth | b) Solar radiation |
| c) Chemical reactions in animals and plants | d) Energy produced by human industry |

36. Where might solar panels be likely to be the most economic source of electricity?

Please select all that apply:

a) In remote villages b) In cities c) In power applications d) in telecommunications

37. By 2050 the IEA estimate that the contribution to the global electricity supply from PV could be:

a) 6% b) 11% c) 16% d) 20%

38. Photo diode is used for the detection of:

a) visible light b) invisible light c) no light d) both a and b

39. When the semiconductor is doped half with trivalent and half with pentavalent impurities, the junction formed is known as:

a) PN junction b) barrier junction c) potential barrier d) both a and b

40. The width of depletion region is:

a) directly proportional to doping b) inversely proportional to doping
c) independent of doping d) none of the above

41. In a forward biased photodiode with increase in incident light intensity, the diode current:

a) increases b) remains constant c) decreases d) none of the above

42. When a diode is forward biased, the recombination of free electron and holes may produce:

a) heat b) light c) radiation d) all of the above

43. A telescope that uses a mirror to collect light is called a:

a) refractor b) reflector c) interferometer d) spectrometer

44. Which of the following colors of visible light has the longest wavelength:

a) violet b) green c) yellow d) red

45. The value of G, the universal gravitational constant, was measured experimentally by:

a) Newton b) Cavendish c) Copernicus d) Kepler

46. As a longitudinal wave moves through a medium, the particles of the medium:

a) vibrate in a path parallel to the path of the wave
b) vibrate in a path perpendicular to the path of the wave
c) follow the wave along its entire path
d) do not move

47. As a pendulum is raised to higher altitudes, its period:

a) increases b) decreases c) remains the same d) decreases, then remains the same

48. Two light rays will interfere constructively with maximum amplitude if the path difference between them is:

a) one wavelength b) one-half wavelength
c) one-quarter wavelength d) one-eighth wavelength

49. A beam of white light is passed through a diffraction grating and the resulting spectrum is allowed to fall on a screen. Which one of the following is the color of light that undergoes the greatest deviation from its original direction:

a) red b) yellow c) blue d) violet

50. In simple harmonic motion, the acceleration is:

- a) constant
- b) proportional to the distance from the central position
- c) greatest when the velocity is greatest
- d) none of the above

Answer Key

1	b
2	c
3	a
4	b
5	d
6	c
7	b
8	c
9	a
10	c
11	c
12	a
13	c
14	b
15	c
16	a
17	a
18	b
19	c
20	d
21	a
22	d
23	b
24	d
25	A

26	d
27	a
28	b
29	c
30	b
31	b
32	b
33	a
34	b
35	b
36	a
37	b
38	d
39	a
40	a
41	a
42	d
43	b
44	d
45	b
46	a
47	a
48	a
49	a
50	b