**G.H.Raisoni College of Engineering and Management, Wagholi, Pune**

( An Autonomous Institute Affiliated to SPPU )

F.Y.B Tech Engineering Physics ( BPHL 102)

**TAE- III ( 2016 Pattern)**

**QUIZ** 20 Min.

1. Which of the following is a unique property of laser?  
a) Directional b) Speed c) Coherence d) Wavelength

 2.Calculate the number of photons, from green light of mercury (ʎ = 4961 Å), required to do one joule of work.  
a) 4524.2×1018/m3 b) 2.4961×1018/m3 c) 2.4961/m3 d) 2.4961/m

3. Which of the following can be used for the generation of laser pulse?  
a) Ruby laser b) Carbon dioxide laser c) Helium neon laser d) Nd- YAG laser

4.  Which of the following can be used in the vibrational analysis of structure?  
a) Maser b) Quarts c) Electrical waves d) Laser

5. What is the need to achieve population inversion?  
a) To excite most of the atoms b) To bring most of the atoms to ground state  
c) To achieve stable condition d) To reduce the time of production of laser

6. The voltage at which forward bias current increases rapidly is called as \_\_\_\_\_\_\_\_\_\_\_  
a) Breakdown Voltage b) Forward Voltage c) Knee Voltage d) Voltage barrier

7.  The current produced in reverse-bias is called as \_\_\_\_\_\_\_\_\_\_  
a) Reverse Current b) Breakdown Current c) Negative Current d) Leakage Current

8.  How does a semiconductor behave at absolute zero?  
a) Conductor b) Insulator c) Semiconductor d) Protection device

9.  Which of the following is known as indirect band gap semiconductors?  
a) Germanium b) Nickel c) Platinum d) Carbon

10. Which method can be used to distinguish between the two types of carriers?  
a) Hall effect b) Rayleigh method c) Doppler effect d) Fermi effect

11. The velocity is higher in the medium whose refractive index is \_\_\_\_\_\_\_\_\_\_\_\_\_\_  
a) Lower b) Higher c) 1 d) Same as the first medium

12.  What is the difference between the actual sunset and apparent sunset?  
a) 2 seconds b) 30 seconds c) 1 minute d) 2 minutes

13.  The melting point of particles in nano form \_\_\_\_\_\_\_\_\_\_\_  
a) Increases b) Decreases c) Remains same d) Increases then decreases

14. The initial tools used to help launch the nanoscience revolution were \_\_\_\_\_\_\_\_\_\_\_  
a) Binoculars b) Microscope c) Scanning probe instruments d) Interferometer

15. Which nanomaterial is used for cutting tools?  
a) Fullerene b) Aerogel c) Tungsten Carbide d) Gold

16.The refractive index of a material is 1.75. What is the polarizing angle?  
a) 47.23° b) 51.02° c) 53.74° d) 60.25°

17. The sunlight as received by the observer is \_\_\_\_\_\_\_\_\_\_  
a) Unpolarized b) Partially Polarized c) Polarize d) Varying Polarizability

18. At the angle of polarization, p, the angle between the reflected and the refracted beam is \_\_  
a) p b) π c) π /2 d) p/2

19. XRD stands for \_\_\_\_\_\_\_\_\_  
a) X-ray diffraction b) X-rays dispersion c) X-ray powder diffraction d) None

20. For the synthesis of CNTs, the quartz tube is heated up to \_\_\_\_\_\_\_\_\_\_\_\_  
a) 1000℃ b) 1200℃ c) 1400℃ d) 1600℃

-------------------------------------------\*\*\*----------------------------------------------