KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Engineering) - 2019 Admission
Re- Examination - May 2022

Basc.1103 **Engineering Physics (2+1)** **Marks: 50**
Time: 2 hours

I **Fill in the blanks** **(10x1=10)**

1. Expulsion of magnetic lines of force from the interior of superconductor material when cooled to its critical temperature is called .....
2. ..... is the wavelength of red light emitted by a helium- neon laser.
3. ..... property measures the resistance of a liquid to flow.
4. Spliting of spectral lines in the presence of magnetic field is .....
5. ..... laser is an example of optical pumping.
6. In Newton's rings experiment, the diameter of bright rings is proportional to .....
7. In Holography, ... of light coming from an object are recorded.
8. When there are no external forces, the shape of a liquid drop is determined by .....
9. The presence of parallel alignment of magnetic dipole moment is given by..... materials.
10. The temperature at which conductivity of a material becomes infinite is called .....

II **Write short notes on ANY FIVE of the following** **(5x2=10)**

1. Explain type-I superconductor.
2. Surface tension
3. What is the difference between intrinsic semiconductor and extrinsic semiconductor?
4. Population Inversion
5. What are the applications of optical fibers?
6. Streamline and Turbulent flow
7. Ferromagnetism

III **Answer ANY FIVE of the following** **(5x4=20)**

1. Meissner effect
2. How to find out the viscosity of a liquid by Stoke's method?
3. Derive the law of mass action.
4. Distinguish between Semiconductor and Insulator.
5. Briefly explain about the formation of Newton's ring.
6. Compare Stark effect and Zeeman effect.
7. Langevins theory of Diamagnetism

IV **Write an essay on ANY ONE of the following** **(1x10=10)**

1. Explain the principles of laser. Describe Nd-YAG laser. Give its uses.
2. How to determine the wavelength of different colours using diffraction grating with white light with neat diagram.

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