

SANT GADGE BABA AMRVATI UNIVERSITY, AMRAVATI
Summer Examination 2020
HVPM's College of Engineering and Technology, Amravati
Department of First Year Engineering
Bachelor of Engineering Sem. :- I & II

Subject:-Engineering Physics

Code :- IA2

Instructions:-

- 1) Solve any two questions
 - 2) All question carry equal marks
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Q1.

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| a) Explain the effect of temperature on Zener Breakdown voltage. | 2M |
| b) What is Compton effect? | 2M |
| c) What is hall effect? State its importance. | 1M |
| d) What is Newton's Ring? | 2M |
| e) Explain the condition of total internal reflection. | 2M |
| f) State any four applications of ultrasonic waves. | 1M |

Q2.

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| a) Explain the formation of depletion region in a p-n junction diode. | 2M |
| b) Give two industrial applications and two medical application of laser. | 2M |
| c) What is amass spectrograph? | 1M |
| d) What is diffraction grating? | 1M |
| e) Explain the classification of optical fiber on the basis of refractive index. | 2M |
| f) Explain Sabine's formula and Echelon effect. | 2M |

Q3.

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| a) Explain Avalanche breakdown in case of zener diode. | 2M |
| b) Give properties of matter waves. | 1M |
| c) Draw block diagram of CRO. | 2M |
| d) Distinguish using Fresnel and fraunh offer class of diffraction. | 2M |
| e) State any four application of optical fiber. | 2M |
| f) Gives application of Bernoulli's theorem. | 1M |

Q4.

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| a) Explain the principle of light emission in a light emitting diode. | 2M |
| b) Draw of suitable figure 1)spontaneous emission 2)stimulated emission | 2M |
| c) Explain working of vertical amplifier. | 1M |
| d) What is thin film? Explain its advantages. | 2M |
| e) Describe the principal of optical fiber. | 1M |
| f) State stokes law. Write its formula. | 2M |