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Question Paper Code: 52008

B.E. / B.TECH. DEGREE EXAMINATION, DEC 2020

Second Semester

Agriculture Engineering

15UPH207 – PHYSICS FOR AGRICULTURAL ENGINEERING

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. If $E = E_F$, and $T = 0$ K, then $F(E)$ is CO1- R
(a) 1 (b) 0 (c) 0.5 (d) 0.75
2. A dielectric can be made a conductor by _____ CO1- R
(a) Compression (b) Heating (c) Doping (d) Freezing
3. The term biomass most often refers to _____ CO2- R
(a) Inorganic matter (b) Organic matter (c) Chemicals (d) Ammonium compounds
4. What is the percentage at which rated power from biogas in petrol engine can be developed? CO2- R
(a) 45% (b) 65% (c) 75% (d) 85%
5. Which of the following is the most commonly used technique for the preparation of metallic glass? CO3- R
(a) Melt spinning system (b) Twin roller system
(c) Melt extraction system (d) Sputtering
6. Multi walled CNT are _____ concentric nano tubes. CO3- R
(a) Single (b) Double (c) Triple (d) Multiple
7. Which of the following is not a form of energy? CO4- R
(a) Thermal energy (b) Radiant energy (c) Nuclear energy (d) Potassium energy
8. A component whose property changes when there is a change in any physical quantity of a device is CO4- R
(a) Processor (b) Sensor (c) Output device (d) Portable device

9. Which of the following fact about radiation / irradiation is true? CO5 R
- (a) All food items consumed by man are radioactive
- (b) Alpha and beta particles and gamma photons are the radiations available for food preservation applications
- (c) Energy lost per ion pair formed is greater than the ionization energy
- (d) All of the mentioned
10. Germination is inhibited by _____ CO5- R
- (a) Red light (b) Blue light (c) UV light (d) IR light

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Explain the different types of polarization mechanism in dielectrics. CO1-U (8)
12. Explain the importance, production and applications of biofuels. CO2-U (8)
13. Describe the principle, construction and working of Physical Vapor deposition to produce nanomaterials. CO3-U (8)
14. Summarize the two types of sensors with suitable examples. CO4- U (8)
15. Summarize the Food irradiation using electron beams, X-rays - nuclear radiation. CO5- U (8)

