Reg.No.:

Question PaperCode:92P07

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

SecondSemester

19UPH207–AGRICULTURE ENGINEERING

(For Agriculture branch)

(Regulation2019)

Duration:Three Hours   Maximum:100Marks

PARTA-(10x2= 20Marks)
(Answer any ten of the following questions)

1. What are conventional energy sources and give example?   CO1 (U)

2. Compare biomass and bio gas?   CO1 (U)

3. What are fossil fuels? Give examples   .   CO1 (U)

4.   Explain geothermal energy?   CO1(U)

5. Give the importance of soil texture   CO1(U)

6. A soil sample has a porosity of 81%, a moisture content of 35.2% and a specific gravity
    of 2.85. Determine the degree of saturation and the air void ratio.   CO3 (AP)

7. Why is soil porosity important?   CO1(U)

8. What is the role of soil structure is relation to plant growth?   CO1 (U)

9. What are the types of metallic glasses and mention few metallic glasses? CO1 (U)

10. What are the applications of shape memory alloys?   CO1 (U)

11. What are magnetic properties of nanomaterials?   CO1 (U)

12. What is optical remote sensing?   CO1 (U)

13. Give the advantage and disadvantage of a geostationary satellite for environmental
    applications.   CO1 (U)

14. Describe about visual image interpretation and explain digital image.   CO1 (U)

15. Mention remote sensing applications in agriculture.   CO1 (U)

PART-B (5x16=80 Marks)

16 .(a) Suggest a technique to convert the agriculture waste into energy releaseproduct.
With neat diagram explain its working and list out its merits and demerits.   CO3 (AP)

Or

(b) Describe bio-fuels production and their applications   CO1 (U)

17. (a) Describe the instruments used for measurement of soil temperature.   CO1 (U)

Or

(b) A soil sample has a porosity of 81%, a moisture content of 35.2% and a specific gravity of 2.85. Determine the degree of saturation and the air void ratio.   CO3(AP)

18 (a) Explain the following characteristics of shape memory alloys.   CO1 (U)
(i) Shape memory effect
(ii) Pseudo elasticity
(iii) Hysteresis.

Or

(b) Select a suitable method for production of metallic glasses and analyze the properties and applications of amorphous metal.   CO3(AP)

19.(a) What are nano materials? Explain any one method of preparing nano materials.   CO1 (U)

Or

(b) Describe the factors that influence soil reflectance in remote sensing.   CO1 (U)

20.(a) Discuss the data characteristics and data processing in remote sensing.   CO1 (U)

Or

(b) Explain with necessary diagram the synthesis of nano materials using Chemical vapour deposition.   CO1(U)

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