SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF PHYSICS

QUESTION BANK

II SEMESTER

1920205 - PHYSICS FOR AGRICULTURE ENGINEERING

Academic Year 2022 – 2023

Prepared by

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DEPARTMENT OF PHYSICS

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SUBJECT : 1920205- PHYSICS FOR AGRICULTURE ENGINEERING

SEM / YEAR: II SEM/AY-2022-2023

UNIT I - BASICS OF SOIL PHYSICS

Basic principles of physics applied to soils viz. viscosity, surface tension, capillarity, stress-strain relations,gaseous diffusion, heat transport, thermodynamic principles; Properties of water in relation to porous media.

Flow of water in soil; Darcy's law, hydraulic conductivity and water diffusivity; saturated and unsaturated flow and equations; Methods for saturated and unsaturated hydraulic conductivity measurement-both *in situ*and in laboratory; Capillary movement of water, contact angle.

PART – A

Q.No	Questions	BT Level	Competence
1.	What is soil physics?	BTL 1	Remembering
2.	What are the components and phases of soil?	BT L 4	Analyzing
3.	List out the important functions of soil.	BT L 1	Remembering
4.	Write down the types of soil moisture regimes.	BT L 3	Applying
5.	Give a brief note on textural pores and structural pores.	BT L 1	Remembering
6.	Write a note on secondary particles of soil.	BT L 1	Remembering
7.	Explain the term soil degradation.	BT L 4	Analyzing
8.	Write a note on soil horizon O and A	BT L 1	Remembering
9.	How can be the soil separates be categorized?	BT L 3	Applying
10.	Write in brief on gravel.	BT L 1	Remembering
11.	What is meant by failure stress?	BT L 3	Applying
12.	Why is soil porosity important?	BT L 3	Applying
13.	One litre of dry soil sampled from a farm requires 300 g of water to completely saturate it. Calculate its porosity .	BT L 4	Analyzing
14.	What are the sources of soil temperature?	BT L 1	Remembering
15.	Explain in brief the term soil Rheology.	BT L 1	Remembering
16.	A barrel soil has a wet mass of 220 kg. the mass of water content is 0.18. Calculate the mass of dry soil and water in the barrel	BT L 3	Applying
17.	List out the factors that affect the soil retention	BT L 2	Understanding

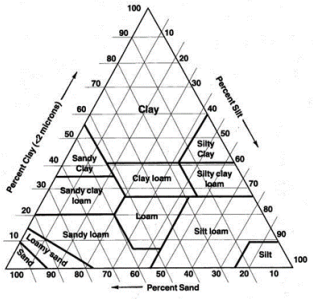
18.	Define soil strength.	BT L 1	Remembering
19.	Give a short note on roundness .	BT L 2	Understanding
20.	What are the four types of water?	BT L 2	Understanding
21.	One litre of soil has a wet weight of 1500 g. The volume of soil solids 1500 gm which occupies a volume of 450 m^3. calculate the particle density.	BT L 3	Applying
22.	Based on the contact angle of water on solid surface classify the materials	BT L 1	Remembering
23.	What are the factors that affect electrical resistance of a soil body?	BT L 1	Remembering
24.	Differentiate the flow of water in saturated and unsaturated soil the types of soil?	BT L 4	Analyzing

PART – B

Q. No	Questions	BT Level	Competence
1.	Write short notes on the following i) Soil viscosity. (7) ii) Thermal conductivity of soil. (6)	BT L2	Understanding
2.	Derive an expression for the capillary rise. (13)	BT L2	Understanding
3.	Write a brief essay on "surface tension." With a neat diagram, explain interactive forces, and define units. (13)	BT L1	Remembering
4.	With necessary diagrams write an elaborate note on classification of soil structure based on their shape. (13)	BT L1	Remembering
5.	With necessary equations explain the physical properties of the soil. (13)	BT L4	Analyzing
6.	Derive the equations for physical properties of the soil. (13)	BT L2	Understanding
7.	i) Derive an equation for terminal velocity and radius of the particle. (10) ii) A hydrometer test was performed in the soil physics laboratory using water with a viscosity of 1×10^{-3} kg/m/s. Calculate the settling velocity for particles of equivalent radius of 0.2 and 0.002 mm? The particle density and density of water are 2.65 and 1 mg/m^3, respectively. For a particle of 0.2 mm radius, the settling velocity. (3)	BT L4	Analyzing
8.	Write in detail about the particle shape in soil. (13)	BT L 2	Understanding
9.	Explain in detail about soil particle density and soil bulk density. (13)	BT L1	Remembering
10.	Write a brief note on the following i) Soil temperature (3) ii) Volumetric heat capacity (3) iii) Diffusivity of soils. (4)	BT L1	Remembering
11.	Write an elaborate note on models to explain the soil responses to stress and strain. (13)	BT L1	Remembering
12.	Derive the differential form of Darcy's law for saturated porous media (13)	BT L1	Remembering

13.	Show that the flux density $q = k_s \frac{\Delta H}{L}$ using Darcy's law. (13)	BT L1	Remembering
14.	Explain the terms soil water content and soil porosity. (13)	BT L 1	Remembering
15.	Describe in detail a method to measure the saturated hydraulic conductivity (13)	BT L 1	Remembering
16.	Write in detail about the steady state and transient methods for the measurement of unsaturated hydraulic conductivity. (13)	BT L 2	Understanding
17.	Write a note on the following i) Sprinkler Method. (7) ii) Crust-Topped Method. (6)	BT L 2	Understanding

PART C

Q.No	Questions	BT Level	Competence
1.	Use a soil texture triangle to calculate the soil texture for the following combinations of sand, silt and clay: select a suitable combination for cultivation (15) a) 25% sand, 30% silt, 45% clay b) 40% sand, 30% silt, 30% clay c) 60% sand, 10% silt, 30% clay d) 70% sand, 12% silt, 18% clay e) 90% sand, 5% silt, 5% clay f) 80% sand, 15% silt, 5% clay g) 10% sand, 85% silt, 5% clay h) 5% sand, 75% silt, 20% clay i) 40% sand, 40% silt, 20% clay j) 55% sand, 5% silt, 40% clay k) 10% sand, 60% silt, 40% clay l) 5% sand, 45% silt, 50% clay 	BT L 4	Analyzing
2.	i) Assume that the surface tension is 0.07275 N/m, the density of water is 998.2 kg/m^3, and acceleration due to gravity is 9.8 m/s^2. If instead of fully wetting the surface, there is a contact angle of 20°, calculate the height of rise of water for a 0.002 and 0.0002m wide capillary. (5) ii) With the schematic diagram of capillary rise in different types of soils write down importance of capillarity. (10)	BT L 3 BT L 4	Applying Analyzing
3.	i) Write a note on forces acting on water. (5) ii) Derive an expression for capillary rise . (10)	BT L 3 BT L 4	Applying Analyzing
4.	i) Write a note particle density, bulk density and specific gravity. (9)	BT L 3	Applying

	ii) A soil is sampled by a core weight =300 gm and total 345 cm^2. The total core plus wet soil weight is 1000 gm on oven drying at 105^0 the core plus dry soil weighed 860 gm. Calculate wet and dry bulk densities and gravimetric moisture content (6)	BT L 4	Analyzing
5.	One litre of soil has a wet weight of 1500 gm ,dry weight of 1200 gm and volume of soil 450 cm^3.compute all 13 soil physical properties. (15)	BTL 4	Analyzing

UNIT II - INTRODUCTION TO ENERGY HARVESTING

Energy sources, Introduction, Classification, Energy from Biomass, Types of biogas plants, constructional details, Principles of combustion, pyrolysis and gasification, Types of gasifiers, Briquetting , Types of Briquetting machines, Wind energy, Types of wind mills, Constructional details and application of wind mills; Modern applications and future potential of renewable energy sources.

PART A

Q.No	Questions	BT Level	Competence
1.	What is meant by biomass.	BTL 1	Remembering
2.	How biomass conversion takes place?	BTL 3	Applying
3.	What is the difference between biomass and bio gas?	BTL 4	Analyzing
4.	Name the various models of biogas plant.	BTL 4	Remembering
5.	Give a list of the materials used for biogas.	BTL 4	Analyzing
6.	Give a brief note on the forms of biomass.	BTL 4	Analyzing
7.	List out the advantages obtaining of energy from biomass.	BTL 4	Analyzing
8.	What are the components of biogas?	BTL 1	Remembering
9.	What are the factors which affect the size of the biogas plants?	BTL 4	Analyzing
10.	What is pyrolysis?	BTL 1	Remembering
11.	Define Gasification processes.	BTL 1	Remembering
12.	How are the gasifiers classified?	BTL 2	Understanding
13.	List down the factors that influence the nature of wind.	BTL 4	Analyzing
14.	Explain in brief the term Airfoil.	BTL 2	Understanding
15.	Write short notes on the forces acting on the turbine blades.	BTL 2	Understanding
16.	Name the factors that determine the output from wind energy convertor.	BTL 4	Analyzing
17.	Define the term power coefficient.	BTL 1	Remembering
18.	What are the factors that affect the nature of the wind close to the surface of the earth?	BTL 4	Analyzing
19.	Write down the characteristics of good wind power site.	BTL 4	Evaluate
20.	What are the advantages of one bladed rotor?	BTL 4	Analyzing
21.	What are the advantages of vertical axis wind turbines over horizontal axis?	BTL 4	Analyzing
22.	Explain in brief the savonius Rotor.	BTL 1	Remembering
23.	What is Darrieus motor?	BTL 1	Remembering

24.	Write short notes on applications of wind energy.	BTL 3	Applying
	PART B		
Q.No	**Questions**	**BT Level**	**Competence**
1.	Describe in detail the construction and working of a biomass plant. (13)	BTL 2	Understanding
2.	What are different types of biogas plants? Explain in detail about construction and working one type of bio mass plant of any. (13)	BTL 3	Applying
3.	Explain in detail the working and construction of the KVIC biogas plant. (13)	BTL 2	Understanding
4.	What is the use of gasifier? Explain in detail about any three types of gasifiers. (13)	BTL 4	Analyzing
5.	Write an elaborate note on Upward draft and down draft Gasifier. (13)	BTL 2	Understanding
6.	What is meant by gasification ? How will you characterize the gasification process? Explain with neat diagram the working of plasma Gasifier. (13)	BTL 3	Applying
7.	Write a brief note on principles of combustion, pyrolysis and gasification. (10) Differentiate combustion and gasification. (3)	BTL 4	Analyzing
8.	Define the term Briquetting. Describe the types of Briquetting machines, its working and its applications. (13)	BTL 4	Analyzing
9.	Suggest a technique to convert the agriculture waste into energy release product. With neat diagram explain its working and list out its merits and demerits. (13)	BTL 3	Applying
10.	Derive the expression for power developed due to wind. (13)	BTL 1	Remembering
11.	Show that average wind available per unit area is directly proportional to the cube power of instantaneous velocity of the wind. (13)	BTL 3	Applying
12.	Describe the main considerations in selecting a site for wind generators. (13)	BTL 2	Understanding
13.	Describe with a neat sketch the working of a wind energy system with main components. (13)	BTL 2	Understanding
14.	With a neat block diagram, explain the components and workings of WES. (13)	BTL 4	Analyzing
15.	Describe the horizontal type aero generators. (13)	BTL 2	Understanding
16.	What are the advantages and disadvantages of horizontal and vertical axis wind mill? What methods are used to overcome the fluctuating power generation of the windmill? (13)	BTL 1	Remembering
17.	What are the advantages of vertical axis machine over horizontal type? Describe a rotor for relatively low velocity wind. (13)	BTL 2	Understanding
	PART C		
Q.No	**Questions**	**BT Level**	**Competence**

1.	Explain in detail about construction and working one type of fixed dome bio mass plant . list the advantages and disadvantages	(15)	BTL 5	Evaluating
2.	Explain in detail about construction and working one type of floating dome type bio mass plant. Write down its merits and demerits	(15)	BTL4	Analyzing
3.	list out the conditions that are followed in installing the windmill.	(15)	BTL4	Analyzing
4.	Write in detsil the block disgrsm wind energy system and explain its working.	(15)	BTL 5	Evaluating
5.	In a land near sea coast, the average wind energy is 1600 kWh/m^2 per year. It has no tall obstructions for a radius of 3 km. Explain with a neat diagram how to use the above land and wind energy.	(15)	BTL4	Analyzing

UNIT III - PHYSICS OF ARTIFICIAL FARMING

Introduction – Planting techniques: Vertical farming- Hydroponics-Indoor farming. Plant Environment interactions-principles of limiting factors: Solar radiation and transpiration – greenhouse effect, light, temperature, Relative Humidity.

Solar energy applications: Solar flat plate and focusing plate collectors, solar grain dryers, Solar Refrigeration system, Solar ponds, solar fencing, and Solar pumping systems.

PART A

Q.No	Questions	BT Level	Competence
1.	What is meant by artificial farming?	BTL1	Remembering
2.	Write short notes on vertical farming.	BTL1	Remembering
3.	How does vertical farming work?	BTL2	Understanding
4.	What can be grown in vertical farm?	BTL2	Understanding
5.	List the advantages and disadvantages of vertical farming.	BTL4	Analyzing
6.	What is Hydroponics?	BTL1	Remembering
7.	Explain in brief about Indoor farming.	BTL1	Remembering
8.	Write in brief about the wick system.	BTL1	Remembering
9.	What is meant by Ebb and flow method?	BTL1	Remembering
10.	Explain the term Aerophonics.	BTL1	Remembering
11.	What is meant by deep water culture?	BTL1	Remembering
12.	Define solar constant.	BTL1	Remembering
13.	What are the types of solar radiation?	BTL4	Analyzing
14.	What are the reasons for variation in solar radiation reaching the earth received at the outside of the atmosphere?	BTL3	Applying
15.	Classify the different solar energy measuring instruments.	BTL2	Understanding
16.	Define solar collector.	BTL1	Remembering

17.	What are the types of solar collector? Based on which parameters they are classified.	BTL2	Understanding
18.	Write notes on selecting absorber coatings.	BTL4	Analyzing
19.	What are the materials used for flat plate collectors?	BTL3	Applying
20.	What is meant by solar air heater?	BT 1	Remembering
21.	What are the advantages and disadvantages of focusing type collector over a flat plate collector?	BTL3	Applying
22.	Define optical efficiency.	BTL1	Remembering
23.	What are the types of solar ponds?	BTL2	Understanding
24.	Write a brief note on solar fencing.	BTL1	Remembering

PART – B

Q.No	Questions	BT Level	Competence
1.	Explain in detail about the concept of Vertical Farming and various methods employed in Vertical Farming. (13)	BTL2	Understanding
2.	Explain in detail the types of hydroponics. (13)	BTL1	Remembering
3.	Write an elaborate note how farming can be done soil less. (13)	BTL2	Understanding
4.	What are the methods to measure the beam radiation? Explain in detail with necessary diagram. (13)	BTL1	Remembering
5.	i) Define the terms (6) a) Inclination angle b) Zenith angle c) Solar azimuth angle. ii) Explain with neat diagram the working of Pyrheliometer. (7)	BTL1 BTL1	Remembering Remembering
6.	With necessary diagram explain the principle, working and application of flat plate solar collector. (13)	BTL2	Understanding
7.	What is meant by non-concentrating collector? Describe the construction, working and uses of non-concentrating collector. (13)	BTL3	Applying
8.	What are solar air heaters? Explain in detail the types of air solar heater. (13)	BTL5	Evaluate
9.	Based on the modes of heat transfer classify the types of drying sketch the various solar dryer design. (13)	BTL5	Evaluate
10.	Describe non convective solar pond for solar energy collection and storage. How stable density gradient is maintained? (13)	BTL1	Remembering
11.	What do you mean by green house? Enumerate the main types of green houses. (13)	BTL3	Applying
12.	Explain in detail the workings of solar electric fence system. What are its advantages? (13)	BTL3	Applying
13.	Explain in detail about Absorption air conditioning and intermittent absorption cooling system. (13)	BTL2	Understand
14.	Describe the layout and working of a continuous solar cooling system. (13)	BTL1	Remembering
15.	Write in detail the construction and working of solar refrigeration system.	BTL1	Remembering

16.	What is meant by solar pond ? explain its construction and working. Also mention its advantages and disadvantages (13)	BTL1	Remembering
17.	Describe the principle operation of solar pumping system? What are the applications of solar pumping system? (13)	BTL4	Analyzing

PART C

Q.No	Questions	BT Level	Competence
1.	Explain in detail how the used carbonated drinks pet bottles can be used for farming without soil. (15)	BTL4	Analyzing
2.	With a neat diagram, explain the working ,and construction of solar air dryer to dry and store the grains after cultivation (15)	BTL4	Analyzing
3.	Describe the layout and working of solar cooling system. (15)	BTL4	Analyzing
4.	Explain in detail how gobal or diffuse beam radiation can be measured (15)	BTL4	Analyzing
5.	Construct a greenhouse that optimizes the received sunlight and heat while reducing the heat losses to a practical minimum with an object of providing stored heat for use overnight time and on cloudy days. (15)	BTL4	Analyzing

UNIT IV - MEASUREMENT TECHNIQUES

Sensors and transducers, principles of operation of field-based instruments like leaf area meter, canopy analyzingr, quantum sensor, spectroradiometer, laser land leveler etc., infrared thermometry, principles, emissivity, infrared spectroscopy, characteristics of agricultural materials.

PART – A

Q.No	Questions	BT Level	Competence
1.	What is meant by sensor and actuator?	BTL1	Remembering
2.	Name the sensors used in Agriculture.	BTL1	Remembering
3.	Write in brief about the non- contact Electromagnetic sensor.	BTL1	Remembering
4.	What is an electrochemical sensor.	BTL2	Understanding
5.	Write a note on quantum sensor.	BTL1	Remembering
6.	What is the use of spectroradiometer?	BTL4	Analyzing
7.	What is the use of optical sensor in Agriculture?	BTL4	Analyzing
8.	Define leaf area index.	BTL2	Understanding
9.	What does Canopy mean?	BTL1	Remembering
10.	List down the applications of plant canopy analyzingr.	BTL3	Applying
11.	Explain the term land leveling.	BTL1	Remembering
12.	What are the benefits of laser assisted land leveling?	BTL4	Analyzing
13.	List the limitations of laser levelling.	BTL3	Applying
14.	What are the benefits of land grading?	BTL2	Understanding
15.	What is the principle of thermometry?	BTL1	Remembering

16.	Write a brief note on infra-red thermometry	BTL 1	Remembering
17.	What are applications of infrared thermal imaging system?	BTL 5	Evaluating
18.	What is the principle of infra-red spectroscopy?	BTL 1	Remembering
19.	Mention the role of infra-red spectroscopy in agriculture.	BTL 3	Applying
20.	Explain in brief about land surface emissivity	BTL 2	Understanding
21.	What is the importance of leaf temperature?	BTL 1	Remembering
22.	Name any two methods of contacting leaf temperature sensor.	BTL 2	Understanding
23.	What are agriculture materials?	BTL 5	Evaluating
24.	List out the physical properties of agricultural materials.	BTL 5	Evaluating

PART B

Q.No	Questions		BT Level	Competence
1.	Explain in detail the about the various sensors used in measuring properties of the soil.	(13)	BTL2	Understanding
2.	Write in brief about the following sensors Electromagnetic Optical Mechanical Electrochemical	 (3) (3) (4) (3)	BTL2	Understanding
3.	Explain how the electromagnetic radiation can be helpful in measuring the propertis of the soil.		BTL 3	Applying
4.	What is meant by canopy? With necessary diagram give an elaborate note on principle and working of canopy analyser.	(13)	BTL4	Analyzing
5.	Suggest a method with necessary theory and diagram to measure leaf area index.	(13)	BTL 3	Applying
6.	Define leaf area index.write in detail the measurement of leaf area index with necessary theory and diagram.		BTL 1	Remembering
7.	Write in detail, with neat diagram about the working of spectroradiometer	(13)	BTL 2	Understanding
8.	Explain in detail a light measurement tool that is able to measure both the wavelength and amplitude of the light emitted from a light source.	(13)	BTL 5	Evaluating
9.	Differentiate the spectrometer, a spectroradiometer, and a radiometer? Explain the two types of spectroradiometer.	(13)	BTL 5	Evaluating
10.	List down the components of a spectroradiometer . with necessary diagram explain construction and working.	(13)	BTL 3	Applying
11.	Describe in detail the methods to measure the leaf temperature.	(13)	BTL 2	Understanding
12.	With necessary theory explain the thermal resistant method and the thermocouple method.	(13)	BTL 2	Understanding
13.	Explain any two methods of determining leaf temperature by contact method.	(13)	BTL 5	Evaluating

14.	What is the importance of land levelling? Explain in detail the working of laser land leveller.	(13)	BTL 5	Evaluating
15.	What is land grading? Explain various methods of land grading.	(13)	BTL 3	Applying
16.	Explain the types, principle and components of laser land levelling.	(13)	BTL 2	Understanding
17.	Write in detail the properties and characteristics of agricultural materials	(13)	BTL 1	Remembering

PART - C

Q.No	Questions		BT Level	Competence
1.	Give the layout of various technique for the measurements of leaf area index (LAI).	(15)	BTL 6	Analyzing
2.	Covert the principles of spectroscopy into technology and design a instrument to measure the nitrogen content, a prime indicator of plant health.	(15)	BTL 6	Analyzing
3.	What is meant by spectroradiometer? explain in detail its construction working .	(15)	BTL 6	Analyzing
4.	Explain elaborately the constructing and working of a land leveller using laser technology	(15)	BTL 6	Analyzing
5.	Analyzing the working and construction of sensors used in precision farming	(15)	BTL 6	Analyzing

UNIT V - DISASTER HAZARDS AND VULNERABILITIES IN AGRICULTURE

Natural disasters- meaning and nature of natural disasters, their types and effects. Floods, drought, cyclone, earthquakes, landslides, avalanches, volcanic eruptions, heat and cold waves, climatic change: global warming, Man-made disasters- nuclear disasters, chemical disasters, biological disasters, forest fire, air pollution, water pollution, deforestation, industrial waste water pollution.

Disaster management- effect to migrate natural disaster at national and global levels. International strategy for disaster reduction. Concept of disaster management, national disaster management framework; role of NGOs, community – based organizations and media.

PART – A

Q.No	Questions	BT Level	Competence
1.	What is natural disaster?	BTL2	Understanding
2.	Write a note on made disaster.	BTL1	Remembering
3.	List out the man –made disaster.	BTL4	Analyzing
4.	Write in brief the effects of disaster.	BTL1	Remembering
5.	What are cyclones?	BTL2	Understanding
6.	What are the categories of cyclone based on wind speeds their capacity to cause damage?	BTL4	Analyzing
7.	What are seismic waves?	BTL2	Understanding
8.	Define epicenter of an earthquake	BTL1	Remembering

9.	Define intensity of earthquake.	BTL1	Remembering
10.	What are the causes of earthquake?	BTL4	Analyzing
11.	Mention few units for the measurement of earthquakes.	BTL1	Remembering
12.	What is flood hazard?	BTL2	Understanding
13.	List the methods of flood prevention.	BTL4	Analyzing
14.	What is drought? Recall the causes for drought.	BTL1	Remembering
15.	Name the four types of drought.	BTL4	Analyzing
16.	Write a brief note meteorological drought.	BTL1	Remembering
17.	What is meant avalanche? Write the different forms of avalanche.	BTL4	Analyzing
18.	How are landslides classified with respect to depth?	BTL1	Remembering
19.	List down the causes of chemical disaster.	BTL2	Understanding
20.	Explain the effects of air pollution.	BTL 3	Applying
21.	Write short notes on biological disaster.	BTL1	Remembering
22.	What are the four stages of disaster management?	BTL2	Understanding
23.	What is disaster risk reduction?	BTL4	Analyzing
24.	What is a role of NGO in disaster management ?	BTL 3	Applying

PART B

Q.No	Questions	BT Level	Competence
1.	What is disaster? Explain in brief the classification of disaster. Write a brief note on natural disaster and hazards in India. (13)	BTL2	Understanding
2.	What is the relationship between the earthquakes and landslides? Explain the effect of earth quakes. Discuss in detail the various zones of earthquake. (13)	BTL5	Evaluate
3.	Explain the reason for tsunami. Discuss its effect and preventive measures. (13)	BTL 1	Remembering
4.	What are the conditions for the emergence of a tropical cyclone? Give a brief note of structure of tropical cyclone. List out the consequences of cyclone. (13)	BTL2	Understanding
5.	Explain flood hazards. Mention the effects and preventive measures. (13)	BTL4	Analyzing
6.	Give a brief account on drought. What are the types of drought? Explain each of them. (13)	BTL 2	Understanding
7.	Write an elaborate note on the Landslide Vulnerability Zones in India. (13)	BTL 2	Understanding
8.	Explain in detail the types of Volcanoes and Eruptions. (13)	BTL 2	Understanding
9.	Explain in detail with necessary diagram the process of volcanic eruption. (13)	BTL4	Analyzing
10.	Explain in detail the types of eruptions. (13)	BTL 5	Evaluating
11.	What is called nuclear disaster? Write down the types, causes and effects of nuclear disaster. (13)	BTL 2	Understanding
12.	Write notes on chemical disasters and biological disasters. (13)	BTL 2	Understanding

13.	What are the types of man made disaster? Explain in detail each type. (13)	BTL4	Analyzing	
14.	What are the effects of the cold and hot waves and global warming in agriculture? (13)	BTL4	Analyzing	
15.	What are the causes of forest fire? How does forest fire causes air pollution? Explain in detail its effect on environment. (13)	BTL4	Analyzing	
16.	Explain in detail the various stages of disaster management. What is its effect to migrate natural disaster at national and global levels? (13)	BTL 5	Evaluating	
17.	Write an essay on the role of NGOs, community – based organizations and media in disaster management. (13)	BTL4	Analyzing	

PART C

Q.No	Questions	BT Level	Competence
1.	Give an elaborate note on the types of volcanos and the disaster caused by it. (15)	BTL 5	Evaluating
2.	What is landslide? Explain in detail the types and causes of landslide. (15)	BTL4	Analyzing
3.	List and explain the various types of drought. (15)	BTL4	Analyzing
4.	Explain in detail the note on chemical and nuclear disaster (15)	BTL 5	Evaluating
5.	With the help of NGO, explain in detail to your locality the hazards due to air pollution, water pollution, deforestation and industrial waste water pollution. (15)	BTL4	Analyzing