

219 09/11/23

SCHEME OF VALUATION
(Scoring Indicator)

3
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Revision: 2015

Course code: 3001

Course Title: ENVIRONMENTAL SCIENCE AND DISASTER MANAGEMENT

| Qst.No | Scoring indicator | Splitup Score | Sub Total | Total |
|---------------|---|----------------------------|-----------|-------|
| I (1) | PART A excessive richness of nutrients in a lake or other water bodies due to water runoff from land | 2 | 2 | 10 |
| I (2) | increasing concentration of toxic chemicals in the body of organisms at successive levels in a food chain | 2 | 2 | |
| I(3) | 1.Emission from radioactive materials in the earth crust 2. uranium mining (any two) | 1 1 | 2 | |
| I(4) | CO2, NO2(any two) | 1+1 | 2 | |
| I(5) | action that reduce the risk of hazards through proactive measures taken before a disaster occurs. | 2 | 2 | |
| PART B | | | | |
| II(1) | 1. Lowering of the Water Table 2.Reduced Surface Water Supplies 3. Land Subsidence 4. Water Quality Concerns List any four Explanation | 2 4 | 6 | |
| II(2) | 1. Overgrazing 2. Deforestation 3. Urbanization and other types of land development 4. Climate Change 5. Natural Disasters 6. Stripping the land of resources (any six) | 1 1 1 1 1 1 | 6 | |
| II(3) | 1. high wind velocity 2.low annual rain fall 3. air is dry , climate hot 4.temperature variation high 5.soil is loose 6. low humidity (any six) | 1 1 1 1 1 1 | 6 | |
| II(4) | Producers- produces food using sunlight Consumers- depends plants and animals for food decomposers –decomposes dead and decay organisms explanation Grass-deer-lion Any example explanation | 3 3 | 6 | |
| II(5) | I) Natural (during rain fall aerial contaminants enter in to water II) Man made 1.domestic waste 2.industrial waste 3. Mining 4. radio active substances | 2 4 | 6 | |

| | | | | |
|---------|---|------------------|---|----|
| II(6) | 1) natural- wind related, water related, earth related 2) manmade-accidents, fire, terrorist activity (any three) | 3 3 | 6 | |
| II(7) | A hazard map is a map that highlights areas that are affected by or are vulnerable to a particular hazard. defenition They are typically created for natural hazards, such as earthquakes, volcanoes, landslides, flooding and tsunamis. Hazard maps help prevent serious damage and deaths. (application) | 2 4 | 6 | 42 |
| PART C | | | | |
| III(a) | UNIT I List any four 1. makes clouds and rain 2. balances CO ₂ and O ₂ levels 3. reduces soil erosion 4. safe habitat Explanation | 2 6 | 8 | |
| III(b) | Positive impacts –high yielding varieties, good economy, availability of food increases Negative impacts-fertilizer related problems, nitrate pollution, eutrophication, water logging, salinity (any four) | 3 4 | 7 | 15 |
| IV(a) | Renewable energy is energy produced from sources that do not deplete or can be replenished within a human's life time. Example solar energy Explanation | 2 1 4 | 7 | |
| IV(b) | Problems: 1. loss of farm land 2. impacts on ecosystem 3. water logging salinization in surrounding lands reduces agricultural productivity. 4. physical transformation of rivers Benefits: 1. year round water supply 2. provides employment 3. generate power supply 4. fishery | 4 4 | 8 | 15 |
| UNIT II | | | | |
| V(a) | An ecological pyramid is a graphical representation of the relationship between different organisms in an ecosystem. Pyramid of numbers-shows the relationship between producers and consumers at successive tropical levels in terms of their numbers Pyramid of biomass-number of consumers at each tropical levels are multiplied by their weight Pyramid of energy –based on total energy content of each tropic level | 2 2 2 2 | 8 | |
| V(b) | Biotic, Abiotic Biotic -producers, consumers, decomposers -example | 1 4 | 7 | 15 |

| | | | | |
|----------|--|--------|----|----|
| | Abiotic –eplanation with example | 2 | | |
| VI(a) | Coniferous forest-cold regions,high rain fall, long winters and short summers.adjacent to tundra regions | 3 | | |
| | Tropic forest-occurs near the equator,both temperature and humidity remain high | 3 | | |
| | Temperate forest-moderate climate,consists of broad leafed deciduous trees which shed their leaves in winter | 3 | 9 | |
| VI(b) | Ecological succession is the process of change in the species structure of an ecological community over time | 2 | | |
| | Primary succession- occurring in an environment in which new substrate devoid of vegetation and other organisms usually lacking soil | 2 | | |
| | Secondary succession-occurs in areas where natural disasters have wiped out an existing living community | 2 | 6 | 15 |
| UNIT III | | | | |
| VII(a) | Incineration-burning of solid waste in controlled conditions | 3 | | |
| | Landfill-dumping waste in to land | 3 | | |
| | Composting-organic matter is converted into inorganic (Any three types) | 3 | 9 | |
| VII(b) | Emotional or psychological effects-anxiety and stress | 4X 1.5 | | |
| | Effect social interaction | | | |
| | Impacts in animals | | | |
| | Interference in normal audio communication | | | |
| | Any four effects with explanation | | 6 | 15 |
| VIII(a) | Effects on human health | 3 | | |
| | Effects on plants | 3 | | |
| | Effects on weather | 2 | 8 | |
| VIII(b) | Any seven points + explanation | | | |
| | 1.Try to plant trees | | | |
| | 2. reduce the uses of wood | | | |
| | 3.reduce the use of chemicals and fertilizers | | | |
| | 4. do not pollute and waste the fresh water | | | |
| | 5.reduce the use of fossil fuels | | | |
| | 6. use public transport system | | | |
| | 7. do not make unwated noise | | | 15 |
| UNIT IV | | | | |
| IX | 1.pre-disaster stage –preparedness and mitigation(explanation) | 5 | | |
| | Preparedness-preparing hazard zonation map,forecasting and warning,preparing disaster preparedness plan,land use zoning,preparedness through IEC | | | |
| | Mitigation-non structural and structural | | | |
| | 2.Emergency stage-mobilization of necessary emergency services such as fire services , police etc. (explanation) | 5 | | |
| X | 3. Post-disaster stage(explanation)-rehabilitation and reconstruction | 5 | 15 | 15 |
| | Causes and effects on the human and whole environment | | 15 | 15 |