GRT INSITITUTE OF ENGINEERING AND TECHNOLOGY –TIRUTTANI – 631209

Second Year / Fourth Semester
Electronics and Communication Engineering

GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING (Regulations 2017)

MULTIPLE CHOICE QUESTIONS

UNIT 1 ENVIRONMENT, ECOSYSTEM AND BIODIVERSITY

CONCEPT OF ECOSYSTEM:

1.	What can be visualized as a functional unit of nature? a) Humans **b) *Ecosystem*** c) Vehicles d) Plants
2.	What is the characteristic of each type of ecosystem? a) Interaction between living things ***b) Interaction between biotic and abiotic factors*** c) Interaction between abiotic factors d) Fights among individuals
3.	In which of the following aspect do the components of the ecosystem are seen to function as a unit? a) Community ***b) Productivity*** c) Speciation d) Niche
4.	In which of the following aspect do the components of the ecosystem are seen to function as a unit? a) Speciation b) Community c) Niche ***d) Decomposition***
5.	From where do autotrophs obtain energy? a) Ecosystem ***b) Sunlight*** c) Heterotrophs d) Zooplankton
6.	Who consumes the autotrophic components? a) Trees b) Plant c) Phytoplankton ***d) Heterotrophs***
7.	What is a group of organisms that transfer food energy through a linear series of processes such as eating and being

	eaten called? ***a) Detritus*** b) Food chain c) Decomposers d) Producers
8.	What is the food chain beginning with host and ending with a parasite (ecto as well as endoparasite) called? a) Detritus food chain ***b) Parasitic food chain*** c) Grazing food chain d) Terrestrial food chain
9.	To which trophic level do producers (photosynthesizers or autotrophs) belong? a) Second b) Third ***c) First*** d) Fifth
10.	Which are the three types of consumers? a) Autotrophs, heterotrophs, and decomposers ***b) Herbivores, carnivores, and decomposers*** c) Producers, heterotrophs, and decomposers d) Herbivores, heterotrophs, and carnivores
ECOLOGICAL SUCCESSION, FOOD CHAIN, FOOD WEB & FOOD PYRMAIDS.	
11.	What is the predictable and gradual change in the species composition of a given area called? a) Environmental issues b) Climax community c) Pioneer community ***d) Ecological succession***
12.	What phenomenon occurs during an ecological succession? a) All species disappear b) All species survive ***c) Some species grow while other species decline*** d) Species grow at the same rate
13.	What is a seral community alternatively called? a) Seral succession b) Seral ecosystem ***c) Seral stage*** d) Seral issues
14.	What is a graphical representation of the relationship (producers forming the base and top carnivores forming the tip) between the individuals present in various trophic levels of a food chain called? a) Ecological succession ***b) Ecological pyramid*** c) Ecological problems

	d) Ecological Services
15.	In which terms are the representation of the relationship between producers and consumers did? a) Problems ***b) Biomass*** c) Ecological success d) Age
16.	Who formulated the ecological pyramids? a) Charles Darwin b) Raymond Lindemann ***c) Charles Elton*** d) Gregor Mendel
17.	What are ecological pyramids alternatively called? a) Pyramid of age ***b) Eltonian pyramids*** c) Devonian pyramids d) Circular pyramids
18.	Which of the following pyramids is always upright? a) Pyramid of numbers b) Age structure ***c) Pyramid of energy*** d) Pyramid of biomass
19.	What is a food chain? a) A long chain made of food b) Process of preparing food c) Food where locked by chain ***d) Pathway that energy and nutrients flow through the ecosystem***
20.	What is called for the diagram that shows how food chain linked together into more complex feeding relationship? ***a) Food web*** b) Food chain c) Food circle d) Food triangle
FOREST, GRASSLAND, DESERT & AQUATIC ECOSYSTEMS	
21.	Which of the following statement is incorrect? a) Forest ecosystem helps in gaseous balance b) Forest ecosystem helps in pollination ***c) Forest ecosystem leads to the extinction of all organisms*** d) Forest ecosystem prevents drought and floods
22.	Whose work is to protect the land from floods, remove sediments and other pollutants and recharge groundwater? ***a) Wetlands*** b) Oceans c) Rivers d) Forests
23.	Which of the following shows a one-way passage in an ecosystem?

	a) Potassium b) Carbon c) Phosphorous ***d) Free energy***
24.	What is released as a byproduct of photosynthesis? a) CO_2 b) NH_4 ***c) O_2*** d) H_2
25.	Which state in India has the maximum percentage of its area covered by forests? a) Arunachal Pradesh ***b) Madhya Pradesh*** c) Mizoram d) Nagaland
26.	How erosion controlled by forest? a) By reducing in the sunlight penetration ***b) By reducing the rainfall's force on the soil's surface*** c) By reducing the pressure d) By increasing the rainfall's force on the soil's surface
27.	How forests increase the atmosphere's humidity? ***a) By transpiration*** b) By inspiration c) By expiration d) By oxidation
28.	Which of the following type of forest important for watersheds? a) Tropical Evergreen forest b) Tropical Deciduous forest ***c) Tropical Montane forests*** d) Grassland forest
29.	What is the predominate vegetation in grassland ecosystem? a) Sand b) Land c) Rock ***d) Grass***
30.	Which of the following ecosystem shows varieties in his vegetation? a) Aquatic ecosystem b) Desert ecosystem ***c) Grassland ecosystem*** d) Forest ecosystem
31.	Himalayan wildlife requires both forest and grassland ecosystems. ***a) True*** b) False
32.	How many types of aquatic ecosystems are there?

	a) One ***b) Two*** c) Three d) Four
33.	Where can we find both running water as well as stagnant water? a) Marine ecosystems b) Wetlands c) Coral reefs ***d) Freshwater ecosystems***
34.	In which of the following we can see fluctuation in the water level dramatically in different season? a) Coral reefs b) Brackish water c) ***Wetlands*** d) Deep oceans
35.	Where can we see coral reefs? a) In pond b) In desert ***c) In shallow trophical seas*** d) In dense tropical forest
BIODIVERSITY	
36.	What is an important reason for the conservation of natural resources? a) Disturb the ecological balance ***b) Preserve the biological diversity*** c) Disruption of quality of the environment d) Hampering the biological species
37.	What is the correct full form of IUCN? a) International Union for Conservation of Nuts ***b) International Union for Conservation of Nature*** c) International Union for Conservation of Natural habitat d) International Union for Conservation of Numbers
38.	What are the species called whose number of individuals is greatly reduced recently and is decreasing continuously? a) Endangered b) Rare ***c*) *Vulnerable*** d) Indeterminate
39.	What is called for any interaction between humans and wildlife that result in negative impacts on cultural life or on the environment? a) Human-wildlife interactions b) Human-wildlife services c) Human-wildlife adjustment d) ***Human-wildlife conflict***
40.	World Wide Fund for Nature (WWF) playing an important role in reducing human-wildlife conflicts.

	a) ***True*** b) False

UNIT 2 : ENVIRONMENTAL POLLUTION

AIR POLLUTION:

1.	A substance, which causes pollution, is known as which of the following? a) ***Pollutant*** b) Carcinogen c) Polluting element d) Irritant
2.	Which of the following pollutants is the major contributor to photochemical smog? a) Peroxynitrates b) Hydroperoxides c) Nitrogen dioxide d) ***Ozone***
3.	How does increase in temperature affect air pollution? a) Higher temperatures reduce air pollution ***b) Higher temperatures increase air pollution*** c) Temperature does not affect the air pollution levels d) Humidity factor is also necessary to predict variance of air pollution with temperature
4.	Pesticides also contribute to air pollution along with polluting underground reservoirs. a) ***True*** b) False
5.	Which of the following are sources to fluorine air pollution? a) Coal combustion b) Steel industries c) Phosphate fertiliser manufacturing **d) All of the mentioned**
6.	Which gas is mainly produced due to incomplete burning of wood? a) ***CO*** b) SO_2 c) NO_2 d) NO_3
7.	Which of the following is a secondary air pollutant? a) SPM b) ***PAN*** c) SO_2 d) NO_2

WATER POLLUTION:

8.	Which of the following organisms found in human waste that cause water pollution? a) ***Coliform bacteria*** b) Viruses c) Protozoa

	d) Parasitic worms
9.	What is the indicator of pollution in water? a) Amount of oxygen b) Amount of hydrogen c) ***Amount of BOD*** d) Amount of nitrogen
10.	What are water soluble inorganic chemicals? a) Compounds of pure metals b) Compounds of non-metals c) Compounds of synthetic metals d) ***Compounds*** of ***toxic metals***
11.	Where we can find water soluble radioactive isotopes? a) In radioactive reactor b) In radioactive coolant c) In radioactive shield d) ***In radioactive waste***
12.	When the government of India did pass the Water (Prevention and Control of Pollution) Act? a) 1999 b) ***1974*** c) 1896 d) 2010
13.	Which materials are easily removed from the polluted water? a) Liquid b) ***Solids*** c) Dissolved d) Nutrients
14.	How is the amount of biodegradable organic matter in sewage water estimated? a) Chemical Oxygen Demand b) Physical Oxygen Demand c) ***Biological Oxygen Demand*** d) Mathematical Oxygen Demand
LAND POLLUTION:	
15.	What is called for the movement of surface litter and topsoil from one place to another? a) Soil submerge b) Soil degradation c) ***Soil erosion*** d) Soil pollution
16.	Why area treatment is important for soil? a) ***To reduces the impact of raindrops on the soil*** b) To maximize surface run-off c) Not treating the upper catchment and proceeds towards an outlet d) Not storing surplus rainwater
17.	Organic agriculture advocates avoiding the use of_____

	a) Organic manure b) Stored water c) Modern technologies in harvesting d) ***Chemical fertilizers***
18.	Integrated pest management reduces the excess use of fertilizers. a) ***True*** b) False
19.	Why continuous contour trenches are used? a) To decrease the infiltration of air b) To enhance the infiltration of air c) To decrease the infiltration of water d) ***To enhance the infiltration of water***
MARINE POLLUTION:	
20.	Which is the most input of waste causing marine pollution? a) Pesticides b) ***Pipes directly discharge waste into the sea*** c) Death of aquatic organisms d) Climatic conditions
21.	Why ship accidents cause marine pollution? a) Because if the ship carrying passengers to collapse it results in the death of many people b) ***Because ship is very huge in its size*** c) Dredged material which carries heavy metals cause marine pollution d) Ship materials stuck inside the marine organisms
22.	Which of the following is the greatest volume of waste discharge to water? a) Spillage from oil pipelines b) ***Sewage*** c) Nuclear waste d) Spillage from tankers
23.	When does the rate of aerobic oxidation reduced in the sewage that is reduced to the water? a) ***When oxygen concentration falls below 1.5 mg/l*** b) When oxygen concentration falls below 2.5 mg/l c) When oxygen concentration falls below 3.5 mg/l d) When oxygen concentration falls below 4.5 mg/l ***Explanation***: When the oxygen concentration falls below 1.5 mg/l, the rate of aerobic oxidation is reduced and replaced by anaerobic bacteria that can oxidizes the organic molecules without the use of oxygen.
NOISE POLLUTION & NUCLEAR HAZARDS:	
24.	What is called when an industry removes water from a source and then returns the heated water to its source? a) Water pollution b) Soil pollution c) Air pollution d) ***Thermal pollution***
25.	What is the disadvantage of control measures of thermal pollution by passing the heated water? a) Water is lost due to leakage b) Water is lost due to absorption

	c) Water is lost due to dilution d) ***Water is lost due to evaporation***
26.	Which one of the following cause thermal pollution? a) ***Release of cold water*** b) Organic manures c) Purified water d) More number of trees
27.	Which pollution cause hearing loss in organisms? a) Air pollution b) ***Noise pollution*** c) Water pollution d) Soil pollution
28.	What is the dB of a threshold of hearing? a) ***0*** b) 10 c) 50 d) 100
29.	Nuclear energy is only harmful. a) True b) ***False***
30.	Which State in India nuclear accident took place? a) ***Tamil Nadu*** b) Karnataka c) Gujarat d) Rajasthan
SOIL WASTE & DISASTER MANAGEMENT:	
31.	Why burning waste is not an acceptable practice of solid waste management? a) Because it is very costly b) Because it requires modern technologies c) ***Because it cause several environmental issues*** d) Because it requires lot of space
32.	What plan should we make to the disposal of solid waste? a) ***Integrated waste management plan*** b) Recycling of waste management plan c) Reducing of waste management plan d) Use of waste management plan
33.	The term 'Municipal Solid Waste' is used to describe which kind of solid waste? a) ***Hazardous*** b) Toxic c) Non hazardous d) Non toxic
34.	How many main components are there in integrated waste management? a) One

	b) Two c) ***Three*** d) Four
35.	Municipal Solid Waste (MSW) contains a wide variety of materials. a) ***True*** b) False
36.	Disaster management deals with situation that occurs after the disaster. a) True b) ***False***
37.	How many elements of disaster management are there? a) 8 b) 7 c) 4 d) ***6*** **Explanation**: There are six distinct sets of activities. These include risk management, loss management, control of events, equity of assistance, resource management and impact reduction.
38.	Which of the below is an example of slow-onset disaster? a) Earthquake b) Tsunami c) Cyclone d) ***Draught*** **Explanation**: Disasters can also be classified as rapid-onset and slow-onset. It is based on how long they last. Rapid-onset disasters are Earthquake, Tsunami and Cyclone.
39.	The first step in preparedness planning is: a) Analysis of data collected b) ***Determination of objectives*** c) Development of implementing device d) Determination of strategy
40.	Tsunami detectors are placed in sea at _____ kms from shore. a) 25 b) 100 c) ***50*** d) 85

UNIT 3: NATURAL RESOURCES

***FOREST RESOURCES*:**

1.	The word forest is derived from ____ a)***Latin*** b)German c)Italian
2.	The ____ trees are found near equator. ***a)evergreen broadleaf*** b)narrow leaf c)wide leaf
3.	The tight soil property will prevent ___

	a)land slide b)soil erosion ***c)both a & b***
WATER RESOURCES:	
4.	Precipitation is the process of ____ ***a)hydrogen cycle*** b)oxygen cycle c)carbon cycle
5.	The runoff produced by melting snow is called as ___ a)smog b)sediments **c)snowmelt**
6.	___ are built across the rivers to store water that is given for agriculture later. a)bridges ***b)Dams*** c)mines
MINERAL RESOURCES:	
7.	An ore is ____ ***a)mineral*** b)substance c)deposits
8.	_____ is caused majorly due to the purification and separation process of minerals. a) water pollution ***b)air pollution*** c)marine pollution
9.	___ hills in North west India have major mines resource. ***a)aravalli*** b)anaimudi c)Attakatti
FOOD RESOURCES:	
10.	___ is the deficiency of such nutrients in food as proteins, vitamins and other essentials. a) ***Malnourishment*** b)over nutrition c)Under nourishment
11.	World food summit was set in the year ___. a)1994 b)2001 ***c)1996***
12.	Every __ people die due to under nutrition and malnutrition. a)20 million ***b)40 million*** c)60 million

ENERGY RESOURCES:	
13.	Life is unthinkable without __ ***a)energy*** b)food c)sleep Explantion: food & sleep is results of gaining energy.
14.	___ is an example of renewable energy. ***a)wood*** b)coal c)electronics
15.	___ is an example of non renewable energy. a)wood ***b)coal*** c)electronics
LAND RESOURCES:	
16.	__ is the removal of superficial layer of soil from one place to another. ***a)soil erosion*** b)landslide c)land mine
17.	___ is the reason for soil erosion. ***a)overgrazing*** ***b)mining*** ***c)deforestation***
18.	___ is conversion of steep slopes into broad terraces. ***a)terracing*** b)contour farming c)till farming
UNIT 4: SOCIAL ISSUES AND THE ENVIRONMENT **SUSTAINABLE/UNSUSTAINABLE DEVELOPMENT:**	
1.	Respect and care for the community is a goal of __ ***a)sustainable development*** b)unsustainable development
2.	Demands on environment attained without reducing its capacity is ___ ***a)environmental sustainability*** b)economic sustainability c)socio-political sustainability
WATER CONSERVATION/MANAGEMENT:	
3.	The process of water for future utilization is ___ ***a)water conservation*** b)water utilization' c)water demand
4.	Treatment of waste water is also known as __

	a)re-use of water b)water wastage c)water demand
REHABILITATION OF PEOPLE:	
5.	Hirakud dam is set as an example for __ ***a)displacement of people*** b)creation of natural perks c)due to mining
6.	Is resettlement called as rehabilitation? a)yes **b)No** **Exaplanation: Resettlement is relocation or displacement or force to move out of their land. This process does not focus on future welfare, while rehabilitation does.**
NGOs & ENVIRONMENTAL ETHICS:	
7.	___ focuses on Human rights, environment, health, poverty like government does. ***a)NGOs*** b)world summits c)law making
8.	____ refers to the issues, principles and guidelines relating to human interactions with their environment. a)laws ***b)environmental ethics*** c)principles to live
CLIMATE CHANGE, GLOBAL WARMING, ACID RAIN, OZONE LAYER DEPLETION, NUCLEAR ACCIDENTS, HOLOCAUST:	
9.	Nuclear holocaust differs from nuclear accidents. ***a)true*** b)false
10.	Carbon emission gases are related to global warming. ***a)true*** b)false
11.	Climate change mainly causes the habitat hard for living. ***a)true*** b)false
12.	Ozone layer is defines as ___ a)o2 ***b)o3*** c)o
WASTELAND RECLAMATION:	
13.	Types of wasteland__ Answer: Uncultivable and cultivable.
14.	Wastelands can be classified into __ forms a)2 b)3

	c)4 Answer: 1. Easily reclaimable, 2. Reclaimable with difficulty, 3. Reclaimable with extreme difficulty.
AIR/WATER PREVENTITION & CONTROL ACT:	
15.	Air prevention act was established in the year ___ a)1967 ***b)1981*** c)1995
16.	Water prevention act was established in the year ___ a)1967 ***b)1974*** c)1995
WILDLIFE & FOREST PROTECTION ACT:	
17.	Forest protection act was established in the year ___ a)1967 ***b)1927*** c)1995
18.	Judicious use of forest products are enable through the protection act. ***a) True*** b)false
UNIT 5: HUMAN POPULATION AND THE ENVIRONMENT	
POPULATION GROWTH & EXPLOSION:	
1.	__ is defined "total number of individuals of the same species occupying a particular geographical area at a given time". a)Population control ***b)population explosion*** c) Population density.
2.	Birth rate is also called as Natality. ***a)True*** b)false
FAMILY, WOMEN, CHILD WELFARE PROGRAM:	
3.	Family welfare program was started in the year __ ***a)1951*** b)1967 c)1978
4.	The success of family program is based on ___ a)reducing birth rate b) public awareness c)education of woman ***d)all***
ENVIRONMENTAL HUMAN HEALTH:	
5.	Human health is influenced by nutritional, biological, chemical & psychological factors. ***a)true*** b) false

6.	Observation of environmental health can prevent diseases **a)true** b)false
HUMAN RIGHTS, VALUE EDUCATION:	
7.	Rights to equality are the fundaments human rights. ***a)true*** b)false
8.	All humans are born free and equal in dignity and rights. ***a)Article 1*** b) Article 2 c) Article 12
HIV/AIDS:	
9.	Abbreviation for AIDS Answer: Acquired Immuno Deficiency Syndrome.
10.	HIV was discovered in the year __ ***a)1959*** b)1978 b)1929
ROLE OF IT IN ENVIRONMENT AND HEALTH:	
11.	Biomechanics involve robots to enquire the human health. ***a) true*** b)false
12.	Health service technology involves ___ system a)two b***)three*** c)four