* D K - 0 0 3 - 0 0 1 4 1 8 *

DK-003-001418 Seat No. _____

B. Sc. (Sem. IV) (CBCS) Examination

April / May – 2015

BT: 401: Environmental Biotechnology

Faculty Code : 003

Subject Code : 001418

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) Figures in the right indicates marks.

(2) All questions are compulsory.

(3) Draw a diagram wherever necessary.

(4) Write answers of all questions in main answer sheet.

SECTION - I

1 Multiple Choice Questions : **20**

(1) The conversion of nitrogen to ammonia or nitrogenous compound is called

(A) Nitrogen assimilation

(B) Nitrogen fixation

(C) Nitrification

(D) Denitrification

(2) Which of the following is not the factor that affect biodiversity ?

(A) Air pollution (B) Water pollution

(C) Land pollution (D) Noise pollution

(3) A population is a group of

(A) individual in a species

(B) species in community

(C) communities in an ecosystem

(D) individuals in family

(4) The carrying capacity of the population is determined by its

(A) natality

(B) mortality

(C) population growth rate

(D) limiting resources

(5) Which of the following is not an example of biome ?

(A) midlatitude grasland

(B) desert

(C) forest-grassland ecotone

(D) tundra

(6) The largest reservoir of carbon is

(A) ocean (B) atmosphere

(C) soil (D) vegetation

(7) Sewage is mainly generated from which of these

(A) hospitals (B) houses

(C) factories (D) offices

(8) The theory of use and disuse was given by

(A) Stebbins (B) Lamarck

(C) Aristotle (D) Vavilox

(9) The slimy bacterial growth which provides home for heterogeneous microbial community is called

(A) Biomembrane (B) Biofilm

(C) Biocoating (D) Biocovering

(10) _____ have been widely used as adsorbent in waste water treatment

(A) Lignite (B) Lime

(C) Coal (D) Both (A) and (B)

(11) Which is related to reproduce isolation

(A) genetic isolation

(B) temporal isolation

(C) behavioural isolation

(D) all of these

(12) Which of the following is non-biodegradable ?

(A) Tea leaves (B) Nylon

(C) Remains of animal (D) Fleece of sheep

(13) All are primary pollutants except

(A) ammonia

(B) peroxy aryl nitrate (PAN)

(C) sulphur dioxide

(D) hydrogen sulphide

(14) The process of accumulating the higher and higher doses through food chain is called

(A) bioaccumulation (B) biomagnification

(C) biofilteration (D) in-place pollutant

(15) Azolla is used as a biofertilizer as it contains

(A) rhizobium

(B) cyanobacteria

(C) mycorrhiza

(D) large quantity of humus

(16) For the survival of the fish in river system, the minimum dissolved oxygen required is

(A) 3 ppm (B) 4 ppm

(C) 5 ppm (D) 10 ppm

(17) Identify the recalcitrant group of xenobiotic compound

(A) halocarbons

(B) calcium carbonate

(C) calcium sorbinate

(D) all of the above

(18) The fully mechanized composting plant involves

(A) Mechanized segregation

(B) Mechanized pulverizing of refuse

(C) Mechanized receipt

(D) All of the above

(19) Chlorinated hydrocarbon pesticide such as DDT

(A) are not good because they are persistent in nature

(B) are currently in widespread use in United States

(C) are usually not magnified in food chain

(D) are carbamate pesticides originally developed to combact malaria

(20) A rain fall can be classified as acid if its pH value is less or equal to

(A) 4 (B) 5

(C) 6 (D) 7

SECTION - II

2 (A) Answer in short : **(any 3 from 6)** **6**

(1) Explain desert biome.

(2) The significance of BOD in aquatic ecosystem.

(3) What do you mean by chemical neutralization?

(4) Discuss biofertilizer with its example.

(5) Explain interaction within the species.

(6) Give the application of bioplastic.

(B) Answer specifically : **(any 3 from 5)** **9**

(1) Explain Tropical rain forest as a biome

(2) Write about the oxygen cycle

(3) Trickling filter

(4) The common air pollutant

(5) How VAM fungi can be used to control pathogen

(C) Write short notes on: **(any 2 from 5)** **10**

(1) Write about the freshwater ecosystem

(2) Write note on PAH

(3) Write about primary treatment of water

(4) Discuss any two methods of tertiary treatment

(5) Give the contribution of Charls Darvin

3 (A) Answer in short : **(any 3 from 6)** **6**

(1) Give the contribution of Lamark

(2) What is prezygotic isolation?

(3) Prove that biofertilizers are better than chemical fertilizers

(4) Give the list of the living systems used for bioremediation

(5) Explain the indirect process of bioleaching

(6) Define species.

(B) Answer specifically : **(any 3 from 6)** **9**

(1) Explain theory of organic evolution

(2) Write about Thiobacillus thioxidance

(3) Discuss bioremediation with one example

(4) How can we control weeds with the help of biological agents ?

(5) Write about sympatric speciation

(6) Give overview of phylogenetic study

(C) Write short notes on: **(any 2 from 5)** **10**

(1) Write about the nitrogen cycle

(2) Give overview of bioremediation process

(3) Write about acid rain

(4) Discuss bioplastic with its advantages and disadvantages

(5) Theory of natural selection.
