SJ-126

September-2020

B.Sc., Sem.-VI

CC-308 : Environmental Science
(Environmental Engineering Molecular Methods)

Time : 2 Hours]   **[Max. Marks : 50**

Instructions :
(1) Draw figures where necessary.

(2) Show question number against each answer.

(3) Figures in right are marks.

(4) Answer any **three** outof initial **eight** main questions, Question **9** is compulsory

1.	(a)	Write detailed note on Effluent Treatment Plant (ETP).	7
	(b)	Give characteristics of waste generated from tannery industry.	7
2.	(a)	Explain the concept of CETP.	7
	(b)	Give characteristics of waste generated from dairy industry.	7
3.	(a)	Explain Normal, Poison and Binomial distribution in detail.	7
	(b)	Draw bar diagram with comments giving sample data table.	7
4.	(a)	Discuss Mean, Median and Mode.	7
	(b)	Write a short note on Usage of SPSS software.	7
5.	(a)	Write a detailed note on Database concept.	7
	(b)	List popular computer Operating Systems and write note on any one.	7
6.	(a)	Explain Server Client Setup.	7
	(b)	Discuss Computer Networks and Internet.	7

7. (a) Explain Remote Sensing and its types with examples. **7**

(b) Explain electromagnetic spectrum and its reflectance features. **7**

8. (a) Explain the processes in Remote Sensing. **7**

(b) Write a short note on applications of RADAR. **7**

9. Answer in short : (any **eight**) **8**

(1) _____ is a process which involves further removal of the Nitrogen.

(a) Nitrification (b) Denitrification

(c) Ammonification (d) Reduction

(2) The Chemical Oxygen Demand (COD) measures the amount of Oxygen

(a) required for growth of microorganisms in water.

(b) that would be removed from the water in order to oxidize pollution.

(c) required to oxidize the calcium present in waste water.

(d) None of these

(3) The purest form of naturally occurring water is

(a) Rain water (b) River water

(c) Pond water (d) Well water

(4) Which is the most commonly used coagulant ?

(a) Alum (b) Ferric sulphate

(c) Limestone (d) Coal

(5) Secondary treatment uses _____ to consume wastes.

(a) Micro-organisms (b) Chemicals

(c) Filtration (d) None of these

(6) Write two advantages of CETP.

(7) The probabilities of all the outcomes of an event sum up to _____.

    (a)   3   (b)   2

    (c)   0   (d)   1

(8) Number which occurs most frequently in a set of numbers is

    (a)   Mean   (b)   Median

    (c)   Mode   (d)   None of above

(9) In a Poisson distribution, the Mean and Standard Deviation are equal. (True/False)

(10) In a Binomial Distribution, the mean and variance are equal.

(11) In SPSS, what is the 'data viewer' ?

    (a)   Table summarizing the frequencies of data for one variable.

    (b)   Spread-sheet into which data can be entered

    (c)   Dialog box that allows you to choose a statistical test

    (d)   Screen in which variables can be defined and labelled.

(12) Define population.

(13) Actual equipment of computer system that can be touched are _____.

(14) 'RAM' stands for

    (a)   Random Access Memory   (b)   Read Access Memory

    (c)   Read Arithmetic Memory   (d)   Random Arithmetic Memory

(15) Devices that accept data from outside computer and transfer into CPU are called

    (a)   Input devices   (b)   Digital devices

    (c)   Analogue devices   (d)   Truth table peripherals

(16) We use keyboard shortcut 'Ctrl + S' to

    (a)   Save current file   (b)   Start file

    (c)   Play   (d)   Stop

(17) Full form of CPU.

(18) What is the full form of GPS ?

(19) Electromagnetic waves that you can see are called

    (a)   Infrared rays   (b)   Visible rays

    (c)   Microwave rays   (d)   Thermal rays

(20) Remote Sensing techniques make use of the properties of _____ waves emitted, reflected or diffracted by the sensed objects.

    (a)   Electric   (b)   Sound

    (c)   Electromagnetic   (d)   Wind

(21) Full form of GIS.

(22) Name types of Sensors for remote sensing.

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