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**Fifth Semester B.E. Degree Examination, June/July 2023**  
**Management and Entrepreneurship for IT Industry**

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

**Module-1**

- 1 a. Define Management. List and explain roles of a manager. (10 Marks)  
b. List and analyze the different steps involved in planning. (10 Marks)

**OR**

- 2 a. Define organization. Explain the nature and purpose of an organization. (10 Marks)  
b. Explain in brief sources of recruitment and steps in the selection procedure. (10 Marks)

**Module-2**

- 3 a. Explain Maslow's need hierarchy theory of motivation along with its merits and demerits. (10 Marks)  
b. Analyze the following leadership styles:  
(i) Traits approach  
(ii) Behavioural approach  
(iii) Contingency approach. (10 Marks)

**OR**

- 4 a. What is communication? By make use of a diagram explain the importance of communication. (10 Marks)  
b. Analyze the different steps in controlling. (10 Marks)

**Module-3**

- 5 a. Define Entrepreneur. Explain the characteristics of an entrepreneur. (10 Marks)  
b. Explain the functions of Entrepreneur. (10 Marks)

**OR**

- 6 a. Analyze the various stages in Entrepreneurial process. (10 Marks)  
b. Write an explanatory note on the following :  
(i) Barriers to Entrepreneurship.  
(ii) Entrepreneurship in India. (10 Marks)

**Module-4**

- 7 a. List and explain various factors to be considered for selection of a project. (10 Marks)  
b. What is ERP? Explain the importance of ERP. (10 Marks)

**OR**

- 8 a. What is a project report? List and explain the different guidelines provided by the planning commission for the preparation of project report. (10 Marks)  
b. Write short notes on :  
(i) Supply chain management.  
(ii) Types of project report. (10 Marks)

**Module-5**

9 a. Explain the following :

- (i) KSFC
- (ii) KSSIDC
- (iii) TECSOK
- (iv) NSIC

(10 Marks)

b. Explain characteristics and advantages of micro and small enterprise.

(10 Marks)

**OR**

10 a. Write a short note on:

- (i) Five years plan
- (ii) Sri N.R. Narayana Murthy

(10 Marks)

b. What is Intellectual property? Why promote and protect intellectual property?

(06 Marks)

c. Discuss objectives of KIADB.

(04 Marks)

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# CBCS SCHEME

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## Fifth Semester B.E. Degree Examination, June/July 2023 Database Management Systems

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. With neat diagram, describe "Three Schema Architecture" and "Data Independence". (06 Marks)
- b. Discuss the different types of user friendly interfaces and the types of user who typically use each. (06 Marks)
- c. With a neat diagram, explain the component modules of DBMS and their interactions. (08 Marks)

OR

- 2 a. Explain with the block diagram, the different phases of database design. (06 Marks)
- b. Draw an ER diagram of Banking Database. Assume your own entities (minimum 4), attributes and relationships. Specify 3NF tables. (14 Marks)

### Module-2

- 3 a. Briefly discuss different type of update operations on relational database. Show an example of a violation of the referential and entity integrity in each of the update operation. (08 Marks)
- b. Consider the two tables. Show the result of the following :

T <sub>1</sub>		
A	B	C
10	a	5
15	b	8
25	a	6

T <sub>2</sub>		
P	Q	R
10	b	6
25	c	3
10	b	5

i)

$$T_1 \bowtie T_2$$

$T_1.B = T_2.Q$

ii)

$$T_1 \bowtie T_2$$

$T_1.A = T_2.P$

iii)

$$T_1 \bowtie T_2$$

$(T_1.A = T_2.P) \text{ AND } (T_1.C = T_2.R)$

iv)

$$T_1 - T_2$$

- c. List and explain the characteristics of Relations.

(08 Marks)  
(04 Marks)

OR

- 4 a. Define the following :
  - i) Primary key
  - ii) Super key
  - iii) Foreign key
  - iv) Candidate key.
- b. Discuss all the forms of ALTER Commands with example. (04 Marks)  
(06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- c. Consider the following tables :
- Works (Pname , Cname , Salary)
  - Lives (Pname , Street , City)
  - Located – in (Cname , City)
- Write the following queries in Relational algebra :
- i) List the names of the people who work for the Company 'Wipro' along with the cities they live in.
  - ii) Find the names of the persons who do not work for 'Infosys'.
  - iii) Find the people whose salaries are more than that of all of the 'Oracle' employees.
  - iv) Find the persons who works and lives in the same City.
  - v) Find the names of the companies that are located in every city where the Company Infosys is located. (10 Marks)

### Module-3

- 5 a. Describe the six clauses in the syntax of an SQL retrieval query. Show what type of constructs can be specified in each of six clauses. Which of the six clauses are required and which are optional? (04 Marks)
- b. How are Triggers and Assertions defined in SQL? Explain. (06 Marks)
- c. Consider the following tables :
- Branch (Bname , Bcity , Assets)
  - Account (Accno , Bname , Accbal)
  - Loan (Loan no , Bname , LoanAmt)
  - Customer (Cname , Cstreet , CCity)
  - Depositor (Cname , Accnum)
  - Borrow (Cname , Loannum)
- Write the following queries in SQL :
- i) Find all loan numbers for loans made at cantonment branch with loan amounts greater than 20000.
  - ii) Find the names of all customers whose street address includes 'Main'.
  - iii) Find the average balance for each branch, if average balance is greater than 12000.
  - iv) Find the Customers who have an account, at all the branches located in "Mysure".
  - v) Find all Customers who do not have loan at the bank, but do have an account. (10 Marks)

### OR

- 6 a. How is view created and dropped? What problems are associated with updating view? (06 Marks)
- b. What is Cursor? With program segment, explain retrieving of tuples with embedded SQL in C. (06 Marks)
- c. Explain the concept of Create , Passing parameter , Call stored procedure from JDBC. (08 Marks)

### Module-4

- 7 a. Briefly explain the informal design guidelines used as measure to determine the quality of relations schema design. (08 Marks)
- b. What do you mean by Closure of Attributes? Write an algorithm to find closure of attributes. (06 Marks)
- c. Given below are two set of FDs for a relation R(A, B, C, D, E). Are they equivalent?
- i)  $A \rightarrow B$  ,  $AB \rightarrow C$  ,  $D \rightarrow AC$  ,  $D \rightarrow E$
  - ii)  $A \rightarrow BC$  ,  $D \rightarrow AE$ . (06 Marks)

OR

- 8 a. What do you mean by Multivalued Dependency? Explain the 4NF with example. (06 Marks)
- b. Define First, Second and Third Normal forms by taking an example. (06 Marks)
- c. Consider the following Relation  $R(A, B, C, D, E, F, G, H, I, J)$  with FDs  $\{A, B\} \rightarrow C$ ,  $A \rightarrow \{D, E\}$ ,  $D \rightarrow J$ ,  $B \rightarrow \{F, G\}$ ,  $F \rightarrow \{H, I\}$ . How would you Normalize completely? (08 Marks)

Module-5

- 9 a. Describe the problems that occur when concurrent execution uncontrolled. Give examples. (06 Marks)
- b. Explain the transaction support in SQL. (06 Marks)
- c. Consider the three transactions  $T_1$ ,  $T_2$  and  $T_3$  and schedule  $S_1$  &  $S_2$  given below. Determine whether each schedule is serializable or not? If serializable, write down the equivalent serial schedule (S). (08 Marks)
- $T_1$  :  $R_1(x)$ ,  $R_1(z)$ ,  $W_1(x)$  ;
- $T_2$  :  $R_2(x)$ ,  $R_2(y)$ ,  $W_2(z)$ ,  $W_2(y)$  ;
- $T_3$  :  $R_3(x)$ ,  $R_3(y)$ ,  $W_3(y)$  ;
- $S_1$  :  $R_1(x)$ ,  $R_2(z)$  ;  $R_1(z)$  ;  $R_3(x)$  ;  $R_3(y)$  ;  $W_1(x)$  ;  $W_3(y)$  ;  $R_2(y)$  ;  $W_2(z)$  ;  $W_2(y)$  ;
- $S_2$  :  $R_1(x)$  ;  $R_2(z)$  ;  $R_3(x)$  ;  $R_1(z)$  ;  $R_2(y)$  ;  $W_1(x)$  ;  $W_2(z)$  ;  $W_3(y)$  ;  $W_2(y)$  ;

OR

- 10 a. What is Schedule? Explain Conflict and view Serializability schedule with example. (08 Marks)
- b. Briefly discuss the two phase locking protocol used in concurrency control. (06 Marks)
- c. Briefly explain ARIES recovery process. (06 Marks)

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**Fifth Semester B.E. Degree Examination, June/July 2023**  
**Mathematics for Machine Learning**

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

**Module-1**

- 1 a. Define the linear dependent and linear independent of the vector space  $V(F)$ . Also show that the set of vectors  $(1 \ 0 \ 1)$ ,  $(1 \ 1 \ 0)$ ,  $(-1, 0, -1)$  is linearly dependent in  $V_3(\mathbb{R})$ . (06 Marks)
- b. Solve the system of equations and also show that the solution is unique.  
 $x_1 + x_2 + x_3 = 3$   
 $x_1 - x_2 + 2x_3 = 2$   
 $2x_1 + 3x_3 = 1$ . (06 Marks)
- c. For the matrix  $A = \begin{bmatrix} 1 & -1 & 2 \\ 3 & 1 & 0 \end{bmatrix}$ . Determine the linear transformation  $T : V_3(\mathbb{R}) \rightarrow V_2(\mathbb{R})$  relative to the basis  $B_1$  and  $B_2$  of  $V_3(\mathbb{R})$  are  $V_2(\mathbb{R})$ .  
 i)  $B_1 = \{(1 \ 1 \ 1) (1 \ 2 \ 3) (1 \ 0 \ 0)\}$   
 ii)  $B_2 = \{(1, 1) (1, -1)\}$  (08 Marks)

OR

- 2 a. Define:  
 i) An inner product space  
 ii) Projection of two vectors  $u$  and  $v$   
 iii) Orthogonal vectors  
 iv) An orthogonal set. (08 Marks)
- b. Solve by using the Gaussian elimination method  
 $2x_1 + x_2 + 4x_3 = 12$   
 $4x_1 + 11x_2 - x_3 = 33$   
 $8x_1 - 3x_2 + 2x_3 = 20$  (06 Marks)
- c. Obtain the matrix of linear transformation  $T : V_2(\mathbb{R}) \rightarrow V_3(\mathbb{R})$ , defined by  $T(x, y) = (x + y, x, 3x - y)$  with respect to the basis  $B_1$  and  $B_2$  where  $B_1 = \{(1, 1), (3, 1)\}$  and  $B_2 = \{(1, 1, 1), (1, 1, 0), (1, 0, 0)\}$ . (06 Marks)

**Module-2**

- 3 a. Show that the given vector form an orthogonal basis for  $\mathbb{R}^3$  also express  $\vec{0}$  as a linear combination of the basis vector, write the coordinate vector  $[W]_B$  of  $\vec{W}$  with respect to the basis  $B = \{\vec{V}_1, \vec{V}_2, \vec{V}_3\}$  of  $\mathbb{R}^3$  where  $V_1 = \begin{bmatrix} -1 \\ 0 \\ -1 \end{bmatrix}$   $V_2 = \begin{bmatrix} 3 \\ 6 \\ 3 \end{bmatrix}$   $V_3 = \begin{bmatrix} 3 \\ -3 \\ 3 \end{bmatrix}$   $W = \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$ . (08 Marks)

b. Reduce the matrix to diagonal form

$$A = \begin{bmatrix} 11 & -4 & -7 \\ 7 & -2 & -5 \\ 10 & -4 & -6 \end{bmatrix}$$

(06 Marks)

c. If  $v = \begin{bmatrix} 7 \\ 6 \end{bmatrix}$  and  $u = \begin{bmatrix} 4 \\ 2 \end{bmatrix}$  then find the orthogonal projection of  $v$  on to  $u$  and the orthogonal set. (06 Marks)

OR

4 a. Find the singular value decomposition [SVD] of the matrix  $A = \begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix}$ . (10 Marks)

b. Show that the Eigen values of the following matrix are all equal, and also find the corresponding eigen vector.

$$A = \begin{bmatrix} -3 & -7 & -5 \\ 2 & 4 & 3 \\ 1 & 2 & 2 \end{bmatrix}$$

(10 Marks)

**Module-3**

5 a. A particle moves along the curve  $\vec{r} = t^2 \hat{i} - t^3 \hat{j} + t^4 \hat{k}$ , where 't' is the time. Find the magnitude of tangential component of its acceleration  $t = 1$ . (06 Marks)

b. If  $U = x + y + z$ ,  $V = x^2 + y^2 + z^2$ ,  $W = xy + yz + zx$ , then prove that grad u, grad v, grad w are coplanar. (06 Marks)

c. If  $f(x) = \sqrt{x^2 + \exp(x^2)} + \cos(x^2 + \exp(x^2))$  find  $\frac{df}{dx}$ . Using the following computation graph and the intermediate variables a, b, c, d where  $a = x^2$ ,  $b = \exp a$ ,  $c = a + b$ ,  $d = \sqrt{c}$ ,  $e = \cos c$ ,  $f = d + e$ .

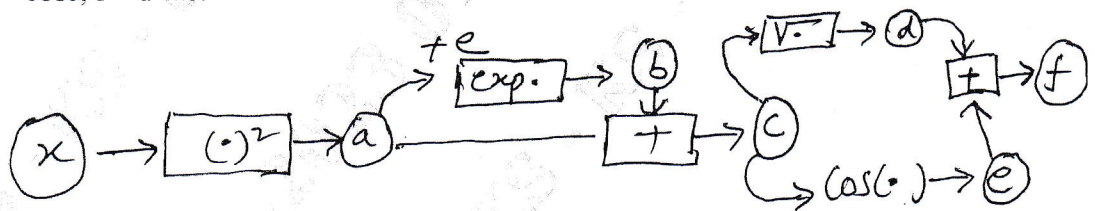


Fig.Q.5(c)

(08 Marks)

OR

6 a. If the directional derivative of  $\phi = ax^2 + byz + cz^2x^3$  at  $(-1, 1, 2)$  has a maximum magnitude of 32 units in the direction of parallel to y-axis find a, b, c. (08 Marks)

b. Define gradient of a vector valued function consider the function  $h : \mathbb{R} \rightarrow \mathbb{R}^2$   $h(t) = (fg)t$   $f : \mathbb{R}^2 \rightarrow \mathbb{R}$  and  $g : \mathbb{R} \rightarrow \mathbb{R}^2$ , if  $f(x) = \exp(x_1 \ x_2^2)$   $x = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} = g(t) = \begin{bmatrix} t \cos t \\ t \sin t \end{bmatrix}$  then compute gradient of h with respect to t. (12 Marks)

**Module-4**

- 7 a. State and prove Baye's theorem on conditional probability. (08 Marks)  
 b. Let A and B be two events, which are not mutually exclusive and are connected with random experiment. Given that  $P(A) = 3/4$ ,  $P(B) = 1/5$ ,  $P(A \cap B) = 1/20$  then find: i)  $P(A \cup B)$  ii)  $P(A \cap \bar{B})$  iii)  $P(\bar{A} \cap B)$  iv)  $P(A/B)$  and  $P(B/A)$ . (06 Marks)  
 c. A random variable x has the following probability distribution:

x	0	1	2	3	4	5	6	7
P(x)	0	K	2K	2K	3K	K <sup>2</sup>	2K <sup>2</sup>	7K <sup>2</sup> + K

Find : i) Value of K ii)  $P(x < 6)$  iii)  $P(x \geq 6)$ . (06 Marks)

**OR**

- 8 a. Test whether the following function is a density function  $f(x) = \begin{cases} e^{-x}, & x \geq 0 \\ 0, & x < 0 \end{cases}$  if so determine the probability that the variate having its density function will fall in the interval (1, 2). (08 Marks)  
 b. The length of the telephone conversation in a booth has been an exponential distribution and found on an average to be 5 minutes. Find the probability that a random call made from this booth i) Ends in less than 5 minutes ii) Between 5 and 10 minutes. (06 Marks)  
 c. Define binomial distribution and find the binomial probability distribution which has mean 2 and variance 4/3. (06 Marks)

**Module-5**

- 9 a. By using gradient descent method (steepest method) for  $f(x_1, x_2) = x_1 - x_2 + 2x_1^2 + 2x_1x_2$  has the optimal solution starting from the point (0, 0) carry out four iterations. (12 Marks)  
 b. Use Lagrange's multiplier, find the dimension of the rectangular box, which is open at the top of maximum capacity whose volume is 32 cubic feet. (08 Marks)

**OR**

- 10 a. Given that  $x + y + z = a$  where 'a' is a constant, find the extreme value of the function  $f(x, y, z) = x^m y^n z^p$ . (08 Marks)  
 b. Define a convex and a concave function, test the nature of definiteness by checking its extreme values for the function  $f(x_1, x_2) = x_1^3 + x_2^3 + 2x_1^2 + 4x_2^2 + 6$ . (06 Marks)  
 c. Determine whether the function  $f(x) = x \log_2 x$  is convex or not for  $x > 0$ . (06 Marks)

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Fifth Semester B.E Degree Examination, June/July 2023

**Environmental Studies****(COMMON TO ALL BRANCHES)**

Time: 2 hrs.]

[Max. Marks: 100

**INSTRUCTIONS TO THE CANDIDATES**

1. Answer all the hundred questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

- 
1. How many parts are there in the forest ecosystem?  
a) One                      b) Two                      c) Three                      d) Four
  2. On which factor forest type is mainly dependent  
a) Abiotic                      b) Size of forest  
c) Shape of Trees                      d) Production from the trees
  3. The forest cover in India has recently increased due to  
a) Increase in natural forest growth  
b) Increase in net sown area  
c) Plantation by different agencies  
d) None of the above
  4. What is not entirely correct about desert?  
a) It is dry and hot                      b) Waterless  
c) Without shelter                      d) All of these
  5. Who have learnt to live under very hot and dry conditions  
a) People                      b) Plants                      c) Animals                      d) All of these
  6. The term wet land implies  
a) Land covers by rain water only  
b) Slow moving water covered wet ground  
c) Water logged wet ground  
d) Fast moving water covered wet ground
  7. World Wetland day celebrated every year on \_\_\_\_\_ February  
a) 2<sup>nd</sup>                      b) 3<sup>rd</sup>                      c) 4<sup>th</sup>                      d) 15<sup>th</sup>

8. World's most saltiest sea is  
a) Mediterranean Sea    b) Dead Sea    c) Callibben Sea    d) Black Sea
9. Atmosphere contains 79 percent Nitrogen and 21 percent Oxygen by  
a) Volume    b) Weight    c) Density    d) All of these
10. In complex ecosystem the degree of species diversity is  
a) Poor    b) High    c) Medium    d) None
11. The organisms who directly feed on producers are called  
a) Herbivores    b) Carnivores    c) Decomposers    d) Sprophytes
12. Abiotic component includes  
a) Soil    b) Water    c) Temperature    d) All of these
13. Which of the following is the climatic factor  
a) Pressure    b) Humidity    c) Temperature    d) All of these
14. The basic requirements of human beings are provided by  
a) Industrialization    b) Agriculture    c) Nature    d) Urbonization
15. Which atmospheric sphere is closest to the earth surface?  
a) Troposphere    b) Stratosphere    c) Mesosphere    d) Exosphere
16. A food web consists of  
a) A portion of a food chain  
b) An organism position in a food chain  
c) Interlocking food chains  
d) A set of similar consumers
17. The pyramid of energy is  
a) Always upright    b) Always inverted  
c) Both upright and inverted    d) None of these
18. Which is the most stable ecosystem  
a) Mountain    b) Desert    c) Forest    d) Ocean
19. 'Earth Day' is held every year on  
a) June 5<sup>th</sup>    b) November 23<sup>rd</sup>    c) April 22<sup>nd</sup>    d) Jan 10<sup>th</sup>
20. Which of the following is absorbed by green plants from the atmosphere?  
a) Carbon dioxide    b) Water    c) Nutrients    d) All of these
21. The most commonly used chemicals in the artificial cloud seeding  
a) Silver iodide    b) Sodium chloride    c) Dry ice    d) All of these
22. Bhopal disaster is a kind of \_\_\_\_\_  
a) Natural disaster    b) Manmade disaster    c) None of (a) & (b)    d) Other
23. National disaster management is headed by  
a) Prime minister    b) President of India  
c) Governor of states    d) Chief minister of states.



40. When the minerals are located to deep in the ground, the method used for mining is  
a) Open pit method      b) Quarries      c) Surface mining      d) Sub surface mining
41. Major pollution causing agent is  
a) Man      b) Animals  
c) Hydrocarbon gases      d) None of these
42. The result of ozone hole is  
a) Acid rain      b) UV radiations      c) Global warming      d) Green house effect
43. Which of the following causes out break of jaundice  
a) Air pollution      b) Water pollution      c) Thermal pollution      d) Soil pollution
44. Minamata disease caused by pollution of water by  
a) Mercury      b) Lead  
c) Tin      d) Methyl ISD Cyanate
45. Noise is measured using sound meter and the unit is  
a) Hertz      b) Decibel      c) Joule      d) Sound
46. Air pollution causes  
a) Global warming      b) Respiratory problems  
c) Soil erosion      d) None of these
47. Intake of lead may primarily cause damage of the \_\_\_\_\_  
a) Brain      b) Liver      c) Lung      d) Kidney
48. According to WHO maximum permissible level of chlorides in drinking water is \_\_\_\_\_  
a) 100 mg/L      b) 600mg/L      c) 800mg/L      d) 200mg/L
49. The main source of water pollution is \_\_\_\_\_  
a) Sewage water      b) Industrial pollutants  
c) Acid rain      d) None of these
50. What is the health effects of excess fluoride in drinking water  
a) Fluoros's      b) Toothaches      c) Lung disease      d) Brain problem
51. Bacteria and micro organisms present in water will cause \_\_\_\_\_ in human and animals  
a) Indigestion      b) Intestinal tract      c) Brain tumor      d) Cancer
52. Why it is difficult to recycle plastics?  
a) It is very hard  
b) It comes in different sizes  
c) It is adhesive  
d) It contains different types of polymer resins
53. The disposable wastes contain  
a) Solids      b) Slurries      c) Liquids      d) All of these
54. Identify the following ones which can be recycled many times  
a) Plastic      b) Wood      c) Aluminum      d) Organic materials
55. Noise pollution limits at residential area  
a) 80 dB      b) 45 dB      c) 90dB      d) 120dB

56. Which of the following make e-waste hazardous in nature  
a) Glass                      b) Plastic                      c) Lead                      d) Iron
57. What is the hazardous pollutant released from LED's?  
a) Barium                      b) Arsenic                      c) Cobalt                      d) Cadmium
58. What is the hazardous pollutant released from batteries?  
a) Arsenic                      b) Cadmium                      c) Copper                      d) Cobalt
59. What proportion of health care waste is hazardous waste  
a) 25%                      b) 15%                      c) 50%                      d) 80%
60. What is the hazardous waste released from telephones  
a) Barium                      b) Copper                      c) Lithium                      d) Lead
61. Which of the following contains most water  
a) Atmosphere                      b) Biosphere                      c) Ground water                      d) Lakes and Rivers
62. Hard water contains large amount of \_\_\_\_\_  
a) Lead                      b) Sodium                      c) Calcium                      d) Silicon
63. Water that is good enough to drink is called \_\_\_\_\_  
a) Potable water                      b) Ground water                      c) Surface water                      d) Artesian water
64. The pH value of acid rain water is  
a) 5.7                      b) 7.0                      c) 8.5                      d) 7.5
65. The primary cause of acid rain around the world is \_\_\_\_\_  
a) CFC                      b) SO<sub>2</sub>                      c) CO                      d) O<sub>3</sub>
66. Acid rain can be controlled by  
a) Reducing SO<sub>2</sub> and NO<sub>2</sub> emissions  
b) Reducing oxygen emissions  
c) Increasing number of lakes  
d) Increasing the forest cover
67. The effect of acid rain  
a) Reduces soil fertility  
b) Increases atmospheric temperature  
c) Causing respiratory problem  
d) Skin cancer
68. Major compound responsible for the destruction of stratospheric ozone layer is  
a) Oxygen                      b) CFC                      c) CO<sub>2</sub>                      d) Methane
69. Ozone layer thickness is measured in  
a) PPM                      b) PPB                      c) Decibels                      d) Dobson units
70. Normal average thickness of stratospheric ozone layer across the globe is around  
a) 5 PPM                      b) 300 DU                      c) 400 DU                      d) 500 DU
71. Chloro Fluoro Carbon's (CFC) are  
a) Non-toxic                      b) Non – Flammable  
c) Non Carcinogenic                      d) All of these

72. Breathing radon over time causes  
a) Lung cancer                      b) Oral cancer                      c) Skin cancer                      d) All of these
73. Radon gas is  
a) Inert                                      b) Colorless                      c) Odorless                      d) All of these
74. Ozone depletion causes  
a) Snow blindness                      b) Photochemical smog  
c) Acid rain                                      d) Vomiting
75. World ozone day is observed on  
a) November 16                      b) October 16                      c) Jan 16                      d) September 16
76. A great way to reduce acid rain is  
a) Use of solar power  
b) Use of wind power  
c) User of hydropower  
d) All of these
77. Ozone layer was first discovered over  
a) Arctic                                      b) Antarctica  
c) Tropical Region                      d) Africa
78. Animal husbandry results in  
a) Global warming                      b) Acid rain  
c) Ozone depletion                      d) None of these
79. Formation of ozone layer is explained by  
a) Rosenmund reaction  
b) Henderson's reaction  
c) Chapman's reaction  
d) Perkin's reaction
80. The main cause of acid rain is  
a) Soil pollution                      b) Water pollution                      c) Air pollution                      d) All of these
81. Remote sensing technique makes use of properties of \_\_\_\_\_  
a) Electric waves                      b) Sound waves  
c) Electromagnetic waves                      d) Wind waves
82. The attitude distance of a geostationary satellite from earth is about  
a) 26,000 km                      b) 30,000 km                      c) 36000 km                      d) 44000 km
83. The changes in the reflectivity/emissivity with time is called  
a) Spectral variation                      b) Spatial variation  
c) Temporal variation                      d) None of these
84. Which one of the following helps to find objects on the earth surface  
a) Atmospheric window                      b) Signature  
c) Radiometric error                      d) None of these
85. Orbital radius of GPS satellites is approximately  
a) 15000km                      b) 26600km                      c) 18400km                      d) 36100km

86. GIS stands for  
a) Geographic Information System  
b) Generic Information System  
c) Geological Information System  
d) Geographic Information Sharing
87. GIS deals with what kind and data  
a) Numeric data      b) Binary data      c) Spatial data      d) Complex data
88. Among the following \_\_\_\_\_ is example of hardware  
a) Arc GIS      b) Auto CAD      c) Digitization      d) Mouse
89. Among the following which do not come under components of GIS?  
a) Hardware      b) Software      c) Compiler      d) Data
90. The relation between velocity, wave length and frequency is  
a)  $\lambda = cf$       b)  $\lambda = c/f$       c)  $\lambda = c^2 f$       d)  $\lambda = cf^2$
91. A short – term EIA (Environmental Impact Assessment) has a time period of  
a) 2 – 5 years      b) 10 – 15 years      c) 5 – 10 years      d) 5 – 7 years
92. EIA commenced in the year  
a) 1960's      b) 1890's      c) 1880's      d) 1950's
93. How many strategies are there in EIA  
a) 5      b) 3      c) 2      d) 4
94. Which is the first Country to pass the Amendment in the Parliament to safeguard the environment?  
a) India      b) Brazil      c) China      d) Denmark
95. ISO 14000 standards are for the  
a) Quality Management System  
b) Environmental Management System  
c) Administration  
d) Supply Chain
96. Who among the following is the most celebrated environmental activist in contemporary India?  
a) Anna Hazare  
b) Medha Patkar  
c) Vasundhara Raje  
d) Arvind Kejriwal
97. What is the full form of NGO?  
a) Non – Governmental Organization  
b) No Governance Organization  
c) Non-Governance Organization  
d) Null Governmental Organization

98. When did Green peace founded  
a) 1965                      b) 1967                      c) 1968                      d) 1971
99. When did Wild Protection Act included in the Constitution of India.  
a) 1980                      b) 1972                      c) 1920                      d) 1992
100. When did World Nature Organization (WNO) be established?  
a) 2000                      b) 2001                      c) 2010                      d) 2014

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