

CBCS SCHEME

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21CS51

Fifth Semester B.E. Degree Examination, June/July 2024 Automata Theory and Compiler Design

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 following terminologies with appropriate examples and notations:
 - i) Kleene star ii) Alphabet iii) Language iv) Power of an alphabet (08 Marks)
- b. Design a DFA to accept the language
 $L = \{ w \mid w \text{ is of even length and begins with } 01 \}$ (07 Marks)
- c. Explain briefly phases of a compiler. (05 Marks)

OR

- 2 a. Define with terminologies different ways of representing Automata considering an example. (08 Marks)
- b. Consider the following ϵ -NFA Fig.Q2(b).

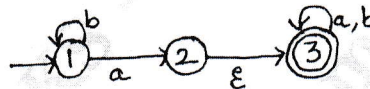


Fig.Q2(b)

- i) Compute the ϵ -Closure of each state ii) Convert the automation to a DFA (07 Marks)
- c. Explain in brief commonly used compiler construction tools. (05 Marks)

Module-2

- 3 a. Write regular expression (RE) for the following Languages.
 - i) The set of all strings such that the number of 0's is ODD. $\Sigma = \{0, 1\}$
 - ii) Every ODD length string begins with 11. $\Sigma = \{0, 1\}$ (08 Marks)
- b. Convert the following FSM into RE using state elimination technique. Refer Table Q3(b).

δ	0	1
$\rightarrow q_1$	q_2	q_1
q_2	q_2	q_4
$*q_3$	q_4	q_2
$*q_4$	q_4	q_1

Table Q3(b)

- c. Describe the languages denoted by the following regular expressions :
 - i) $a.(a + b)^*.b$ ii) $(a + b)^*.a.(a + b)(a + b)$ (05 Marks)

OR

- 4 a. Write Regular Expressions for the following languages:
 - i) All strings of lowercase letters that contain the five vowels in order. (08 Marks)
 - ii) All the strings of a's and b's that contain the substring abb.
- b. Convert the following DFA in Fig.Q4(b) to a Regular Expression using Kleene's theorem.

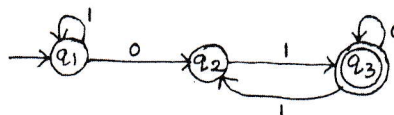


Fig.Q4(b)

- c. Explain with neat diagram interactions between the lexical analyzer and the parser. (05 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.

Module-3

- 5 a. Design Context-Free Grammars (CFG) for the following languages:
 i) $L = \{a^i b^j c^k \mid i = j = k\}$
 ii) The set of all strings of 0's and 1's where the number of 0's is equal to the number of 1's. (08 Marks)
- b. Given the Context-Free Grammar below:
 $S \rightarrow AS \mid \epsilon$
 $A \rightarrow aa \mid ab \mid ba \mid bb$
 Give leftmost and rightmost derivations and parse tree for the following strings:
 i) aaba ii) baabab iii) aaabbb (06 Marks)
- c. Construct the top-down parse tree for string $w = id + id * id$ by using grammar given below:
 $E \rightarrow TE'$
 $E' \rightarrow +TE' \mid \epsilon$
 $T \rightarrow FT'$
 $T' \rightarrow *FT' \mid \epsilon$
 $F \rightarrow (E) \mid id$ (06 Marks)

OR

- 6 a. Remove ambiguity from the Grammar given below:
 $S \rightarrow aSb$
 $S \rightarrow aaSb$
 $S \rightarrow \epsilon$ (08 Marks)
- b. Consider the Context – Free Grammar given below:
 $S \rightarrow aB \mid bA$
 $A \rightarrow a \mid aS \mid bAA$
 $B \rightarrow b \mid bS \mid aBB$
 The string $w = 'aaabbabbba'$ and find
 i) Left-most derivation ii) Right-most derivation iii) Parse-tree (06 Marks)
- c. Explain the role of Parser in the compiler model. (06 Marks)

Module-4

- 7 a. Design PDA to accept the language
 $L = \{WcW^R \mid W \in \{a, b\}^*\}$
 Write ID for $W = 'bacab'$ (10 Marks)
- b. Construct bottom-up parse tree for the following input strings by considering grammar given below:
 $E \rightarrow E + T \mid T$
 $T \rightarrow T * F \mid F$
 $F \rightarrow (E) \mid id$
 $W_1 = id * id$ $W_2 = id + id * id$ (10 Marks)

OR

- 8 a. Design a ND-PDA to accept the language
 $L = \{a^m b^n \mid m \neq n, n, m > 0\}$
 and write ID for $W = aaabb$ (10 Marks)
- b. Explain LR – Parsing algorithm in detail. (10 Marks)

Module-5

- 9 a. Design Turing Machine for the language
 $L = \{ a^i b^j \mid i > 0 \}$
Write ID for string $W = "aabb"$ (10 Marks)
- b. Write a short note on the following topics:
i) Recursive Languages ii) Universal Turing Machines (10 Marks)

OR

- 10 a. Construct Direct Acyclic Graph (DAG) and corresponding three address code for the following expressions:
i) $a + a * (b - c) + (b - c) * d$
ii) $((x + y) - ((x + y) * (x - y))) + ((x + y) * (x - y))$ (10 Marks)
- b. Write a short note on the following :
i) Multitape Turing Machine
ii) Non-Deterministic Turing Machine (10 Marks)

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21CS52

Fifth Semester B.E. Degree Examination, June/July 2024 Computer Networks

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. With a neat sketch, explain two types of wide area network in use. (04 Marks)
b. Explain the functionalities of OSI reference model layers with neat diagram. (08 Marks)
c. Explain the following:
i) Direct sequence spread spectrum and frequency hopping spread spectrum. (08 Marks)
ii) Fiber optics and copper wire. (08 Marks)

OR

- 2 a. List out 6 different types of services provided under connection-oriented and connection less services. (04 Marks)
b. Explain TCP/IP protocol suite of computer network with a neat diagram. Also represent the protocols used in each layer of the model. (08 Marks)
c. What is path loss? Explain different types of frequency bands in radio transmission with necessary diagram. (08 Marks)

Module-2

- 3 a. Write the steps for computing CRC. Find the codeword for the message frame 1101011111 and generator polynomial $G(x) = x^4 + x + 1$ using CRC. (08 Marks)
b. With a neat diagram, demonstrate the working of GO-BACK-N protocol. (08 Marks)
c. Describe pure ALOHA and slotted ALOHA. (04 Marks)

OR

- 4 a. Explain error detection and correction using hamming code with 7 databits and 4 check bits. (08 Marks)
b. Explain the working of stop and wait protocol for a noiseless channel. (08 Marks)
c. With a neat diagram, explain the working of CSMA/CD protocol. (04 Marks)

Module-3

- 5 a. Explain the routing process within datagram network and virtual circuit network with a neat diagram. (08 Marks)
b. Explain distance vector routing algorithm with an example. (08 Marks)
c. Bring out the Leaky Bucket mechanism for traffic policing. (04 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.

OR

- 6 a. Explain different types of packet scheduling algorithm with neat diagrams. (08 Marks)
 b. Write the Dijkstra's algorithm and apply it to the following graph (Refer Fig.Q.6(b)) with source node 'u' to find shortest path to all other nodes.

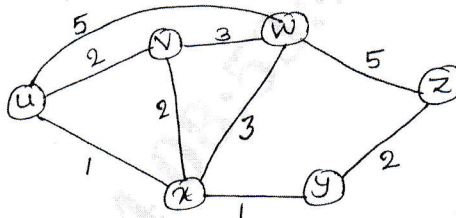


Fig.Q.6(b)

- c. Describe two major differences between the ECN and RED method of congestion avoidance. (08 Marks)
 (04 Marks)

Module-4

- 7 a. List and explain the primitives for a simple transport service. (06 Marks)
 b. Explain connection establishment between server and the client using TCP. (08 Marks)
 c. With general format, explain the various fields of UDP and explain how checksum is calculated. (06 Marks)

OR

- 8 a. With a neat diagram, explain each field of TCP header. (08 Marks)
 b. Write a note on Max-Min fairness. (06 Marks)
 c. Explain the steps in making a remote procedure call with a neat diagram. (06 Marks)

Module-5

- 9 a. What are the 2 different architectures used in modern network application? Explain each architecture with neat diagram. (08 Marks)
 b. Explain the HTTP request message format in detail. (08 Marks)
 c. Explain the use of cookie in web application. (04 Marks)

OR

- 10 a. Illustrate the socket communication between two processes that communicate over the internet with a suitable diagram. (04 Marks)
 b. With a neat diagram, explain how SMTP can be used for transmitting mails from sender to receiver. (08 Marks)
 c. Explain the various services provided by DNS and problems associated with centralized design. (08 Marks)

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21CS53

Fifth Semester B.E. Degree Examination, June/July 2024 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. Define DBMS. Explain main characteristics of database approach. (08 Marks)
- b. Explain advantages of Database Management system. (08 Marks)
- c. Define data model. Explain the different types of user friendly interfaces. (04 Marks)

OR

- 2 a. Define Entity and attributes. Explain all the types of attributes along with notations. (10 Marks)
- b. Explain Cardinality ratios for binary relationship and write a ER diagram for movie database (minimum 4 entities). (10 Marks)

Module-2

- 3 a. Explain relational model constraints. (06 Marks)
- b. Explain different types of update operations and show an example of a violation of the referential and entity integrity in each of update operation. (08 Marks)
- c. Define the following with example :
 - (i) Primary key
 - (ii) Foreign key
 - (iii) Super key
 - (iv) Candidate key(06 Marks)

OR

- 4 a. Briefly explain the ER to relational mapping algorithm with suitable example for each step. (10 Marks)
- b. Explain following relational algebra operators with example :
 - (i) Select
 - (ii) Project
 - (iii) Intersection
 - (iv) Cartesian product(10 Marks)

Module-3

- 5 a. Explain insert, delete, update, alter and drop statement in SQL. (10 Marks)
- b. Consider the following schema for order database :
SALESMAN (Salesman_Id, Name, City, Commision)
CUSTOMER (Customer_Id, Cust_name, City, Grade, Salesman_id)
ORDERS (Ord_No, Purchase_amt, Ord_Date, Customer_id, Salesman_id)
Write SQL queries to,
 - (i) Find the name and numbers of all salesman who had more than due customer.
 - (ii) List all the salesman and indicates those who have and don't have customer in their cities (use union).
 - (iii) Create that view finds the salesman who has the customers with the higher order. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
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OR

- 6 a. Write a note on for following :
 (i) Assertion and action trigger. (10 Marks)
 (ii) Views in SQL. (05 Marks)
- b. Explain stored procedures in SQL. (05 Marks)
- c. Briefly explain JDBC classes. (05 Marks)

Module-4

- 7 a. Explain informal guidelines to determine the quality of relation scheme design with example. (08 Marks)
- b. Explain Armstrong inference rule. (06 Marks)
- c. Discuss insertion and deletion anomalies. (06 Marks)

OR

- 8 a. Define normal form. Explain 2NF, 3NF and BCNF with suitable example. (10 Marks)
- b. Consider 2 sets of FDs, F and G, $F = \{A \rightarrow B, B \rightarrow C, AC \rightarrow D\}$ and $G = \{A \rightarrow B, B \rightarrow C, A \rightarrow D\}$ Are F and G equivalent? (05 Marks)
- c. Consider set of FD's be E : $\{B \rightarrow A, D \rightarrow A, AB \rightarrow D\}$, find the minimal cover of E. (05 Marks)

Module-5

- 9 a. Why concurrency control needed. Explain types of problems that may occur when 2 simple transaction run concurrently. (10 Marks)
- b. Explain why recovery needed and Acid properties. (10 Marks)

OR

- 10 a. Briefly discuss Two-phase locking techniques for concurrency control. (08 Marks)
- b. Explain ARIES recovery algorithm with example. (08 Marks)
- c. Write a note on Deadlock prevention protocol. (04 Marks)

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21AI54

Fifth Semester B.E. Degree Examination, June/July 2024 Principles of Artificial Intelligence

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Define following terms :
- i) Total Turing Test
 - ii) Logical positivism
 - iii) Tractable problems
 - iv) Decision Theory
 - v) Neurons. (05 Marks)
- b. For an automotive taxi driver example, write working of goal agents and utility agents with necessary diagrams, [No explanations]. (10 Marks)
- c. Write PEAS specification of a biometric authentication system. (05 Marks)

OR

- 2 a. Explain Any two milestones in the history of AI :
- i) Neural networks failure to generalize
 - ii) Advent of DENDRAL
 - iii) Emergence of Intelligent Agents. (05 Marks)
- b. Differentiate following types of agents :
- i) Semi – dynamic V/s dynamic
 - ii) Episodic V/s sequential
 - iii) Deterministic V/s Stochastic (05 Marks)
- c. Write PEAS specification for Tomato Classification System. (10 Marks)

Module-2

- 3 a. Write and explain five components of a problem with example. (05 Marks)
- b. Write the state space for a vacuum cleaner to clean 2 squares P and Q is to the bottom of P. [Hence actions are Top, Bottom, Clean, Suck]. (10 Marks)
- c. For the tree given below, using BES write the steps traversed from A to E. Build frontier and explored sets, (No explanation, steps should be shown clearly) (Breadth First Search).

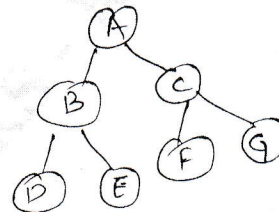


Fig Q3(c)

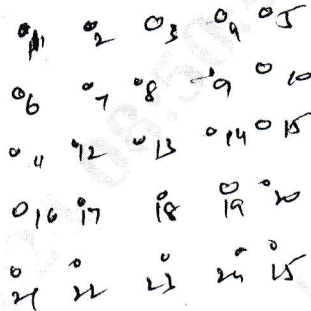
(05 Marks)

OR

- 4 a. Differentiate the following :
- i) Goal formulation V/s Problem solution
 - ii) Toy problem V/s Real world problem. (05 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.

- b. Demonstrate Separation property of GRAPH SEARCH on the following rectangular grid [At least 3 sequences]

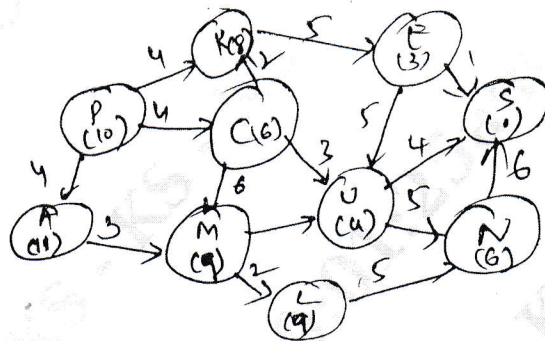


(05 Marks)

- c. For graph shown in Fig Q3(c) using DFS write steps to reach G from A, Also show frontier at each step [Depth First Search]. (10 Marks)

Module-3

- 5 a. For following graph, demonstrate the working of Greedy best first search. Heuristics Arch inside brackets of each node.



Source Node = P
Goal Node = S

Fig Q5(a)

(10 Marks)

- b. Explain the admissibility and consistency property of A* search. (05 Marks)
c. Explain relaxed problem and pattern databases. (05 Marks)

OR

- 6 a. For following graph and heuristic function table, explain the working of A* search.

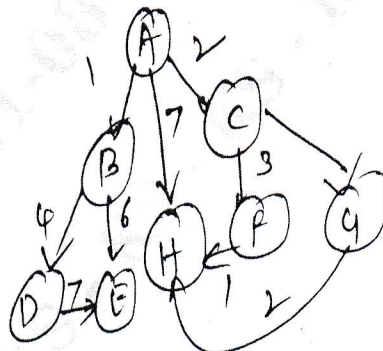


Fig Q6(a)

Source = A, Goal = H

Nodes	Heurists
A	5
B	3
C	4
D	2
E	6
F	3
G	1
H	0

(10 Marks)

- b. Define syntax, semantics, model, satisfaction and entailment of logic. (05 Marks)
 c. Explain the five commonly used logical connectivity in propositional logic. (05 Marks)

Module-4

- 7 a. Explain formal languages and their ontological and epistemological commitments. (05 Marks)
 b. Represent following English statements in following : (10 Marks)
 i) All birds fly ii) Every man respect his parent iii) Some boys play football iv) Only one student failed in maths.
 c. Define and write possible set of axioms on set theory. (05 Marks)

OR

- 8 a. Write and explain the unification algorithm. (05 Marks)
 b. Differentiate Forward chaining and Backward chaining for the example : "As per the law, it is crime for America to sell weapons to hostile nations. Country A, enemy of America, has some missiles, and all missiles were sold to Robert, Who is an American citizen". Prove that "Robert is criminal" using Forward chaining. (10 Marks)
 c. Write and explain procedure for conversion to conjunctive normal form for first order logic. (05 Marks)

Module-5

- 9 a. Explain the summarizing of uncertainty through laziness and Ignorance. Define sample space, unconditional probability and Random variables. (10 Marks)
 b. Explain the method for probabilistic inference using various concepts of probability distribution. (10 Marks)

OR

- 10 a. Explain the following with examples :
 i) Absolute independence ii) Bayes Rules iii) Probability density function. (10 Marks)
 b. Using axioms of probability. Prove that any probability distribution of discrete random variable must sum to 1. Further, prove $P(A / B \cap A) = 1$. (10 Marks)

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21RMI56

Fifth Semester B.E. Degree Examination, June/July 2024

Research Methodology and Intellectual Property Rights

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Identify the meaning of Research and brief out the objectives and motivation in Engineering Research. (10 Marks)
b. Identify the steps to find the "Solve a worthwhile problem". (10 Marks)

OR

- 2 a. Identify the types of Engineering Research and briefly explain them. (10 Marks)
b. Identify the ethical issues related to authorship and brief out them. (10 Marks)

Module-2

- 3 a. Identify the essence of new and existing knowledge and explain briefly. (10 Marks)
b. Identify how search operators are used to narrow down the search results. (10 Marks)

OR

- 4 a. Identify the impacts of title and keywords on citation. (10 Marks)
b. Identify acknowledgement and attributions in research process and briefly explain. (10 Marks)

Module-3

- 5 a. Define Intellectual Property (IP). Explain the major types of IP. (10 Marks)
b. Identify the process of patenting. Briefly explain. (10 Marks)

OR

- 6 a. Explain briefly the Commercialization of a patent. (10 Marks)
b. What are the exclusions (product and processes) that cannot be patented? Explain. (10 Marks)

Module-4

- 7 a. Explain the classes or types of copyrights. (10 Marks)
b. What is a Trademark? Explain the symbols in TM. (10 Marks)

OR

- 8 a. What are the advantages "the registration of a trademark provides to the proprietor"? (10 Marks)
b. Identify process of Trademark registration and explain briefly the classification of TM. (10 Marks)

Module-5

- 9 a. Define Industrial design. Briefly explain acts and laws to govern Industrial design. (10 Marks)
b. Identify procedure for registration of Industrial design by taking example of Aple Inc Vs Samsung Electronics Co. (10 Marks)

OR

- 10 a. Define Geographical Identification (GI) and briefly explain acts, laws and rules pertaining to GI. (10 Marks)
b. Identify IP Organizations in INDIA. Explain schemes and programs for Intellectual Property Rights. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
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CBCS SCHEME

21CIV57

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Question Paper Version : A

Fifth Semester B.E./B.Tech. Degree Examination, June/July 2024 Environmental Studies

Time: 1 hr.]

[Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** 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. In an ecosystem, the flow of energy is _____.
a) Biodirectional b) Cyclic c) Unidirectional d) Multidirectional
 2. Which of the following is a biotic component of an ecosystem?
a) Fungi b) Solar light c) Temperature d) Humidity
 3. Which pyramid is always upright?
a) Energy b) Biomass c) Numbers d) Food chain
 4. The largest reservoir of nitrogen in our planet is,
a) Oceans b) Atmosphere c) Biosphere d) Fossil fuels
 5. Abiotic components include,
a) Soil b) Temperature c) Water d) All of these
 6. Primary consumer is,
a) Herbivores b) Carnivores c) Macro consumers d) Omnivores
 7. The word "Environment" is derived from _____.
a) Greek b) French c) Spanish d) English
 8. Mineral is,
a) Organic matter b) Naturally occurring inorganic substance
c) Synthesis compound d) None of these

9. The term ecosystem was first proposed by,
 a) Jacob Van Verkul b) A.G. Transley c) Costraza d) Marrie Gibbs
10. Gold occur in,
 a) Sedimentary Deposits b) Places deposits
 c) Hydrothermal deposits d) None of these
11. Fluorosis is caused due to,
 a) No fluoride intake b) Low fluoride intake
 c) Excessive fluoride intake d) None of these
12. Decrease of oxygen level in water mainly causes,
 a) Fluorosis b) Death of aquatic life
 c) Water pollution d) Both (b) and (c)
13. Mineral resource are,
 a) Renewable b) Non-Renewable c) Equally distributed d) None of these
14. Deforestation can,
 a) Increase the rainfall b) Increase Soil fertility
 c) Introduce silt in rivers d) None of these
15. Plants use _____ gas for photosynthesis.
 a) Oxygen b) Methane c) Nitrogen d) Carbon dioxide
16. Forests prevent soil erosion by binding soil particles in their,
 a) Stems b) Roots c) Leaves d) Buds
17. Nitrogen fixing bacteria exists in _____ of plants?
 a) Leaf b) Roots c) Steam d) Flower
18. Which of the following is the source of ground water?
 a) Oceans b) Springs c) Rivers d) All of these
19. The effluents from urban areas contain,
 a) Oil and greases b) Detergents
 c) Nutrients d) All of these
20. Maximum dissolved oxygen is required by,
 a) Fish b) Bacteria c) Vegetables d) All of these
21. Which of the following is not a component of soil?
 a) Mineral matter b) Organic matter c) Ozone d) Soil air
22. Definition of Noise is,
 a) Loud sound b) Unwanted sound c) Constant sound d) Sound of high frequency
23. The Noise is measured in,
 a) Decibels b) Joules c) PPM d) NTU

24. Noise pollution can be minimized by,
 a) Urbanization
 b) Maintaining silence
 c) Reducing noise at source
 d) None of these
25. Bursting crackers mainly causes,
 a) Noise pollution
 b) Plastic pollution
 c) Marine pollution
 d) None of these
26. Water pollution can be minimized by,
 a) Releasing sewage to ocean
 b) Releasing effluent to waste land
 c) Treating waste water
 d) None of these
27. Chlorine can be used to,
 a) To kill pathogenic microorganisms
 b) To increase the pH
 c) To clear the turbidity
 d) All of these
28. Carbon content is higher in,
 a) Soil
 b) Atmosphere
 c) Water
 d) Living matter
29. The depletion of trees is causing accumulation of _____.
 a) NO_3
 b) SO_2
 c) CO_2
 d) O_2
30. The adverse effect of modern agriculture is,
 a) Water pollution
 b) Soil degradation
 c) Water logging
 d) All of these
31. E.I.A is related to,
 a) Resource conservation
 b) Efficient Equipment process
 c) Waste minimization
 d) All of these
32. "Earth Day" is held every year on,
 a) June 5th
 b) November 23rd
 c) April 22nd
 d) January 26th
33. Which of the following is the most environmental friendly agriculture practice?
 a) Using chemical fertilizers
 b) Using insecticides
 c) Organic farming
 d) None of these
34. The diesel vehicles pollute the environmental largely through,
 a) NO_x
 b) CO
 c) Unburnt hydrocarbons
 d) All of these
35. Which among the following is clean fuel?
 a) Petrol
 b) Diesel
 c) Electricity
 d) CNG
36. Which among the following is not a greenhouse gas,?
 a) N_2O
 b) CFC's
 c) HFA's
 d) None of these
37. The protocol that reduces greenhouse gas emission's are,
 a) Kyoto protocol
 b) Cartagena protocol
 c) Montreal protocol
 d) Vienna protocol
38. Global Warming could affect,
 a) Climate
 b) Increase in Sea level
 c) Melting of glaciers
 d) All of these

39. Which of the following is a source of SO_2 in atmosphere?
a) Volcanoes
b) Thermal power plants
c) H_2SO_4 manufacturing
d) All of these
40. Atmospheric oxidation of SO_2 to SO_3 is influenced by,
a) Sunlight
b) Humidity
c) Presence of hydrocarbons
d) All of these
41. Acid Rain effects _____
a) Materials
b) Plants
c) Soil
d) All of these
42. Ozone layer is present in,
a) Troposphere
b) Stratosphere
c) Mesosphere
d) Thermosphere
43. Which of the following is the unit for measuring the thickness of ozone layer?
a) Decibels
b) Dobson unit
c) Centimeter
d) None of these
44. CFC's have been used as,
a) Solvents
b) Refrigerants
c) Blowing agents for polymer foams
d) All of these
45. Ozone hole was first discovered over,
a) Arctic
b) Antarctica
c) Tropical region
d) Africa
46. The term acid rain was coined in the year,
a) 1952
b) 1852
c) 1652
d) 1752
47. Which of the following is not a source of CO_2 in the atmosphere?
a) Burning of fossil fuels
b) Photosynthesis
c) Volcanic Eruptions
d) Animal and plant respiration and decay
48. Increase in Asthma attacks has been linked to high levels of,
a) Oxygen
b) Airborne dust particles
c) Nitrogen
d) All of these
49. Food chain is divided into _____ basic categories.
a) Four
b) Three
c) Five
d) Seven
50. About $\frac{3}{4}$ of the country's coal deposits are found in,
a) Karnataka
b) Tamil Nadu
c) Kashmir
d) Bihar and Orissa.
