

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2024

SECOND YEAR [BATCH 2022-25]

COMPUTER SCIENCE [GENERAL]

Date : 29/05/2024

Time : 11 am – 1 pm

Paper : IV

Full Marks : 50

[Use a separate Answer Book for each group]

GROUP - A

Answer any five questions:

[5×5]

1. Explain ANSI-SPARC architecture of dbms. 5
2. Illustrate the role of DBA. 5
3. Explain different type of joining operation in relational algebra with example. 5
4. Define entity and entity set. Strong entity set versus weak entity set. 2+3
5. Define DDL, DML, DCL and TCL with examples. 5
6. What are super, primary, candidate and foreign key? Give an example. 5
7. Explain 1NF, 2NF and 3NF. 1+2+2

GROUP - B

Answer any five questions:

[5×5]

8. i) What do you mean by peer-to-peer process during interaction between layer in the OSI model?
ii) What is the requirement of interfaces between layers in the OSI model?
iii) How many parts are required in a full mesh topology to connect n device? 2+2+1
9. i) Write down the differences between circuit switching and packet switching?
ii) What is the basic concept of routing? 3+2
10. i) Write down the difference between physical addressing and logical addressing?
ii) What is the different way of user authentication? 3+2
11. i) Find the class of the following IP addresses:
a) 01111111 11110000 01100111 01111101
b) 11101111 11110111 11000111 00011101
c) 129.14.6.8
d) 238.34.2.1
ii) An address space has a total of 1024 addresses. How many bits are needed to represent an address? 4+1
12. i) Why do we need a DNS system when we can directly use an IP address?
ii) What is the purpose of mail server?
iii) Which port numbers are used in FTP? 2+2+1

[P.T.O.]

13. i) State the components which are used in a web browser to interpret and display a web document.
ii) What is the use of telnet? 3+2
14. i) State the characteristics of different kinds of web documents.
ii) What is DHCP server?
iii) What is the purpose of web server? 3+1+1

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