

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, JUNE 2022

SECOND YEAR (BATCH 2020-23)

COMPUTER SCIENCE (GENERAL)

Date : 27/06/2022

Time : 11.00 am – 1.00 pm

Paper : IV

Full Marks : 50

## Group : A

Answer **any five** questions of the following:

[5×5]

1. Briefly discuss about schematic diagram of DBMS.
2. Discuss about physical independence and logical independence of data?
3. What is weak entity? How is the difference between partial participation and total participation?
4. What is arity? What is the difference between Network model and Hierarchical model?
5. What is division operator in relation algebra? What are the differences between ALTER, CREATE, DROP commands in SQL? What is the difference between ORDER BY and GROUP BY clause?
6. Briefly discuss about Equi join and Self join.
7. What is cartesian product and outer join in relational algebra.

## Group : B

Answer **any five** questions of the following:

[5×5]

8. a) What are the concerns of the physical layer in the Internet model?  
b) State the responsibilities of the transport layer. [2.5+2.5]
9. a) Find the class of the following IP addresses:  
i) 114.34.12.8  
ii) 127.24.6.8  
iii) 242.34.54.15  
iv) 232.34.2.1  
b) Explain why most of the addresses in class A are wasted.  
c) What do you mean by net-id? [(2+2)+1]
10. a) What is the number of bits in IPv4 and IPv6 addresses respectively?  
b) What are the differences between classful and classless addressing in IPv4? [(1+1)+3]
11. a) What is the network address in a block of addresses?  
b) What is the necessity of mask in networking?  
c) What is URL? Give suitable example. [1+2+2]
12. a) Explain subnetting.  
b) State the disadvantages of subnetting? [3+2]
13. a) What is the use of NAT?  
b) State the features of routing protocol? [2+3]
14. a) Define TELNET.  
b) State the difference between static and dynamic web document. [3+2]

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