



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2022

(Under CBCS Pattern)

Semester - IV

Subject : STATISTICS

Paper : SEC 2-T

Full Marks : 40

Time : 2 Hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Research Methodology

Group-A

Answer any *two* questions : 10×2=20

1. Discuss the four types of measurement scales. 10
2. Clearly explain the difference between collection of data through questionnaires and schedules. 10
3. The procedure of testing a hypothesis requires a researcher to adopt several steps. Describe in brief all such steps. 10
4. How will you differentiate between descriptive statistics and inferential statistics? Describe the important statistical measures often used to summarise the survey/research data. 5+5

P.T.O.

Group-B

Answer any *four* questions :

5×4=20

5. What do you mean by research? Explain its significance in modern times. 5
6. Briefly describe the different steps involved in a research process. 5
7. Distinguish between Research methods and Research methodology. 5
8. In a sample of 400 people, 172 were males. Estimate the population proportion at 95% confidence level. 5
9. Briefly describe the problem of multicollinearity. 5
10. What are the alternative approaches of determining a sample size? Explain. 5

Or,
Paper - SEC 2-T
Data Base Management System

Full Marks : 40

Time : 2 Hours

Group-A

Answer any *two* questions :

10×2=20

1. (a) Discuss the following terms with examples related to SQL :

- (i) Inner join
- (ii) Right join
- (iii) Left join
- (iv) Full outer join

(b) Give two reasons why null values might be introduced into a database. 8+2

2. (a) Consider an employee database with two relations.

employee (*employee ID*, *employee_name*, *address*, *city*)

works (*employee ID*, *employee_name*, *company_name*, *salary*)

where the primary keys are underlined.

- (i) Write a function *avg_salary* that takes a company name as an argument and finds the average salary of employees at that company.
 - (ii) Write an SQL statement, using the function in (i), to find companies whose employees earn a higher salary, on average, than the average salary at “Union Bank”.
- (b) Distinguish among the terms ‘Super key’, ‘Candidate key’ and ‘Primary key’ with examples. Clearly explain the difference between collection of data through questionnaires and schedules. 4+6

P.T.O.

3. (a) For the following table write an SQL statement for printing the rows which have 'Yellow' in one of the columns C1, C2 or C3, but without using "OR".

ID	C1	C2	C3
1	Red	Yellow	Blue
2	NULL	Red	Green
3	Yellow	NULL	Violet

- (d) What is subquery in SQL? 7+3

4. Consider the following car insurance database where the primary keys are underlined.

person (*driver id*, name, address)

car (*car number*, model, year)

accident (*report number*, date, location)

owns (*driver_id*, *car_number*)

participated (*report number*, *car_number*, *driver_id*, *damage_amount*)

Write SQL statements for the following cases of relational database :

- (i) Find the total number of people who owned cars that were involved in accidents in 2017.
- (ii) Add a new accident to the database assuming the values ("B62156", "20/02/2018", "Kolkata")
- (iii) Find the number of accidents in which the cars belonging to "Ajit Roy" were involved.
- (iv) List all the car of Maruti with its owner, car number. 2+3+3+2

Group-B

Answer any **four** questions : 5×4=20

5. What do you mean by data definition language and data manipulation language in SQL? Discuss about different commands under these two categories. 5

6. (a) Suppose a relation is given as *marks (ID, Name, Score)* and it is required to assign grades to students as follows :

Score	Grade
Less than 40	F
Greater than or equal to 40 and less than 60	C
Greater than or equal to 60 and less than 80	B
Greater than or equal to 80	A

Write SQL queries for the following :

- (i) Display the grade for each student based on the relation marks.
 - (ii) Find the number of students in each grade. 5
7. What is the difference between the WHERE and HAVING clauses in SQL? 5
8. Discuss the rational database management system. 5
9. Write a short note on network databases. 5
10. What are local and global variables and their differences? 5
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