

(1)

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Q1 : Fill in the following statements:

- 1) Parametric data is the word which use to measure Quantitative & Qualitative research.
2. Fingerc belongs with quantitative data.
3. Attributive study of data belongs with information used to create chart.
4. Categorization/Classification is the process which separate data in homogeneous groups.
5. The field which depends upon the utilization of human resource in data mangment is called HRM.
6. The grading source of students belong with quantitative measurement scale.
7. Today's temperature was recorded  $32^{\circ}\text{F}$ , lies in the category of quantitative measurement scale.
8. Attribute data has very limited usage in Advance research studies. (F)
9. Number of dots in a single line is very good example of countable data (T)
10. Qualitative data donot belong with the field of statistics. (T)

(2)

## Q2. Part (a)

→ Describe the Relevant field & Branches of Data management.

Defination:

Data management is broad field of study but essentially is the process of managing data as a resource that is valuable to an organization.

Data management can also be the development & execution & architecture policies, practice & procedure in order to manage the information life cycle need of an enterprises in effective manner.

### Branches of Data Management:

1) Data Warehousing:

Is storing data effectively so that it can be accessed and used efficiently in future.

2) Data Movement:

Is the ability to move data from one place to another. For instance data need to be moved from where it is collected to a data base & then to an end user.

(3)

### 3. Data Administration:

It's extremely important in managing data. Every organization or enterprise need data administers for the data base environment.

### 4. Data Warehousing:

A data warehousing is a process for collecting & managing data from varied sources to provide meaningful business insights.

### 5. Transformation:

Data transformation is the process of converting data from one format to another, required format of destination system.

### 6. Governance:

How data is accessed & treated within a broader data management strategy. Data management is the implementation of architecture tool & processes to achieve state data governance objective.

### 7. Architecture:

Is the process of defining & maintaining specification that express strategic data requirement, outline high level integrated object to meet these requirements.

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Q#2 (Part # b):

How could you elaborate the "importance & Application of quantitative study in management" in business life?

Quantitative techniques provide solution to almost every area of a business. These can be used in production, marketing, inventory, finance & other areas to find answer to various questions like how the resources should be used in production, so that profits are maximized. Quantitative methods have found wide applications in project management.

Q# 3a(i)

⇒ Possible outcome for 3 dice?

The probability experiment of rolling three dice has

$$6^3 = 216 \text{ outcome.}$$

⇒ Possible outcome for 5 coins.  
Multiply the number of choices for each coin flip & we get,

$$2 \times 2 \times 2 \times 2 \times 2 \text{ or } 2^5 = 32.$$

(5)

ii)

$$\begin{aligned} & 3P_1 \times 7P_1 \times 2P_1 \\ &= \frac{3!}{2!} \times \frac{7!}{6!} \times \frac{2!}{1!} \\ &= \frac{3 \times \cancel{2} \times \cancel{1}}{2 \times \cancel{1}} \times \frac{7 \times \cancel{6} \times \cancel{5} \times \cancel{4} \times \cancel{3} \times \cancel{2} \times \cancel{1}}{\cancel{6} \times \cancel{5} \times \cancel{4} \times \cancel{3} \times \cancel{2} \times \cancel{1}} \times \frac{2 \times \cancel{1}}{1 \times \cancel{1}} \\ &= 3 \times 7 \times 2 \\ &= 42 \end{aligned}$$

Q3 Part # b:

iii) How many arrangements could be possible for word probability & statistics

Solution:

Arrangement for "statistics"

$$nPr = \frac{n!}{(n!n_1! \dots n_k!)}$$

Total number of alphabets ( $n$ ) and subsets ( $n_1, n_2, \dots, n_k$ ) in word statistics.

$$\text{subset } S = 3$$

$$T = 3$$

$$A = 1$$

$$I = 2$$

$$C = 1$$

$$n_1(S) = 3, n_2(T) = 3, n_3(A) = 1, n_4(I) = 2; n_5(C) = 1$$

$$= \frac{10!}{}$$

$$(3!3!1!2!1!)$$

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$$= \frac{10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{\{(3 \times 2 \times 1)(3 \times 2 \times 1)(1)(2 \times 1)(1)\}}$$

$$= \frac{3628800}{72}$$

$$= 50400$$

- In 50400 way statistic can be arranged.

3b(i)

There are 7 people standing in a line.  
How many ways to construct a line with 7 people?

Solution

$$= \frac{n!}{r!(n-r)!}$$

$$= \frac{7!}{7!(7-7)!} = \frac{7!}{7!(7!-7!)}$$

$$= \frac{7!}{7!(0)}$$

$$= 7!$$

$$= 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

$$= 5040$$

- 5040 way to construct a line with 7 people.

(7)

36(ii)

There are 3 members (principal, headmaster & clerk) How many arrangements could be possible for these during selection?

Solution:

$$= \frac{n!}{r!(n-r)!}$$

$$= \frac{3!}{3!(3-3)!}$$

$$= \frac{3!}{3!(0)}$$

$$= 3!$$

$$= 3 \times 2 \times 1$$

$$= 6$$

- 6 arrangements can be possible for these members during selection.