OBJECTIVE

NOTE: You have four choices for each objective type question as A , B , C and D . The choice which you think is correct , fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

QUESTION NO. 1   DGK-22

MS-ACCESS

1. Which of the following type of file require largest process time ?
   (A) Sequential file   (B) Random file   (C) Indexed sequential file   (D) Direct access file

2. CREATE command is used to create a.
   (A) Table   (B) View   (C) Report   (D) Query

3. Database development process involve mapping of conceptual data model into.
   (A) Object oriented data model   (B) Network data model
   (C) Implementation model   (D) Hierarchical data model

4. In relational database, a table is also called a.
   (A) tuple   (B) relation   (C) file   (D) schema

5. A database consists of various components called the.
   (A) Tool   (B) Properties   (C) Entities   (D) Object

6. The data in table is entered in.
   (A) Design view   (B) Normal view   (C) Datasheet view   (D) Layout view

C-LANGUAGE	OR	VISUAL BASIC

C-LANGUAGE

7. C is a
   (A) High level language (B) Low level language
   (C) Assembly language (D) Machine language

8. Void occupy how many bytes in memory ?
   (A) Zero   (B) One
   (C) Two   (D) Three

9. Variables are created in.
   (A) RAM   (B) ROM
   (C) Hard Disk   (D) Cache

10. Which of the following data type offers the highest precision ?
    (A) Float   (B) Long int
    (C) Long double   (D) Unsigned long int.

11. The function getche ( ) is defined in.
    (A) Stdio.h   (B) String.h
    (C) Math.h   (D) Conio.h

12. In if statement, false is represented by.
    (A) 0   (B) 1
    (C) 2   (D) 3

13. One execution of a loop is known as a (n)
    (A) Cycle   (B) Duration
    (C) Iteration   (D) Test

14. Function prototypes for built-in functions are specified in.
    (A) Source files   (B) Header files
    (C) Object files   (D) Image files

15. A file is stored in.
    (A) RAM   (B) Hard disk
    (C) ROM   (D) Cache

VISUAL BASIC

7. VB is a.
   (A) High level language (B) Low level language
   (C) Assembly language (D) Machine language

8. The output of the Compiler is called.
   (A) Object code   (B) Source code
   (C) Direct code   (D) Staged code

9. Variables are created in.
   (A) RAM   (B) ROM
   (C) Hard Disk   (D) Cache

10. The diamond in a flow chart.
    (A) Progress   (B) Input
    (C) Condition   (D) Output

11. Writing programs in Machine language is.
    (A) Time consuming   (B) Easy
    (C) Complex   (D) Complex and time consuming

12. In if statement, false is
    (A) 0   (B) 1
    (C) 2   (D) 3

13. One execution of a loop is known as a (n)
    (A) Cycle   (B) Duration
    (C) Iteration   (D) Test

14. In Visual Basic, a form is another name for a (n)
    (A) Object   (B) Window
    (C) Property   (D) Label

15. A file is stored in.
    (A) RAM   (B) Hard disk
    (C) ROM   (D) Cache

QUESTION NO. 2   Write short answers any Eight (8) parts of the following   ~~DGK-22~~   16

i	Write any two properties of Normal Distribution
ii	If in normal distribution $\sigma = 2$ find μ_4
iii	Why normal distribution is called symmetrical distribution ?
iv	In normal distribution N(15 , 4) what will be value of its median and why ?
v	What is the role of σ in normal distribution ?
vi	Define statistical estimation
vii	What is meant by unbiasedness ?
viii	Define Null hypothesis
ix	Give two examples of Type II-Error
x	If $\bar{x} = 50$ $\mu = 40$ $\sigma = 5$ $n = 10$ find Z
xi	Differentiate between Hardware and Software
xii	What are two main parts of CPU ?

QUESTION NO. 3   Write short answers any Eight (8) parts of the following   16

i	Define sample design
ii	What is meant by sampling frame ?
iii	Differentiate between sampling and non-sampling errors
iv	Define non-probability sampling
v	If $\mu = 5$, $\sigma = 2.4$, $n = 2$ and $\mu = 4$. Find $\mu_{\bar{x}}$ and $\sigma_{\bar{x}}$ for sampling without replacement
vi	Compare sampling with and without replacement
vii	Define the term ' residual '
viii	Define the method of least squares
ix	In regression line y on x , if $a = 130$ and $b = 3.956$, calculate the estimate of y for $x = 12$
x	Define the term ' correlation '
xi	State any two properties of correlation coefficient
xii	Discuss the measuring of $r = 0$

QUESTION NO. 4 Write short answers any Six (6) parts of the following   12

i	For two attributes A and B , describe the Yule's co-efficient of association
ii	Define negative association
iii	Given that (AB) = 55 , (A) = 144 and (B) = 384 , find the value of n if the attributes A and B are independent
iv	Write down the formula of Pearson's co-efficient of mean square contingency
v	Define historigram
vi	Give an example of seasonal variations
vii	What are the four phases of a business cycle ?
viii	How the normal equations of straight line : $y = a + bx$ are obtained ?
ix	What is a time series ? Give an example

SECTION-II

Note: Attempt any Three questions from this section $8 \times 3 = 24$

Q. 5(a) Let X ~ N(20 , 25) , find the area under the normal curve (i) below 30   (ii) above 28

(b) Suppose that x is normally distributed with $\mu = 25$ and $\sigma = 5$ Find (i) The lower and upper quartiles   (ii) The mean deviation

Q. 6(a) Draw all possible samples of size 2 with replacement from the population 1 , 4 , 6 , 8 .
Find Mean and Standard deviation of the sampling distribution of means

(b) A random sample of 100 is taken from a population with mean 30 and standard deviation 5. The probability distribution of the parent population is unknown. Find the mean and standard error of the sampling distribution of $\bar{x}$

Q. 7(a) If the two sided $100(1 - \alpha)$ % confidence interval based on random sample taken from X ~ N(μ , σ^2) is $12.18 < \mu < 20.56$ Find $\bar{x}$ and standard error of $\bar{x}$

(b) The records of certain hospital showed that the birth of 723 males and 617 females in a certain week Do these figures conform to the hypothesis that the sexes are born in equal proportions ? use $\alpha = 0.02$

Q. 8(a) Fit a straight line Y on X on the following data

X	12	14	16	18	20	22
Y	6	9	11	8	10	12

Also show that $\Sigma(y - \hat{y}) = 0$

(b) From the information given below $\Sigma(x-\bar{x})(y - \bar{y}) = 150$ $S_x^2 = 64$ $S_y^2 = 260$ $n = 16$
Calculate b_{yx}, b_{xy} and r_{xy} Show that $r_{xy} = \sqrt{b_{yx} \times b_{xy}}$

Q. 9(a) Find the value of χ^2 (Chi-Square) from the following data

Social Status	Brilliant	Intelligent	Dull
Upper middle	20	20	60
Middle	32	70	38
Lower Middle	23	35	22

(b) Compute 3-year moving average from the following data

Year	1982	1983	1984	1985	1986	1987	1988	1989
Values	6.2	7.8	8.3	9.3	8.6	7.8	8.1	7.9