RZ-003-1016053   Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March - 2019

Statistics : Paper - 603

(Programming With CH Vital Statistics &
Non-Parametric Methods)
(New Course)

Faculty Code : 003
Subject Code : 1016053

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

Instructions : (1)   All questions are compulsory.

(2)   Each questions carries equal marks.

(3)   Use of Scientific calculator is allowed.

(4)   Statistical table and graph paper will be provided on request.

1   (A)   Give the answer of following question :   **4**

(1)   The C programs are converted into machine language using _____.

(2)   A compiler complies the source code _____.

(3)   && sign is a _____ operator used in C language.

(4)   The meaning of ++ a is _____.

(B)   Write any **one** :   **2**

(1)   How many keywords in C language ? Also write all keywords.

(2)   Define Compiler.

(C) Write any **one** : 3

    (1) Give the comparison between machine language and assembly language.

    (2) Explain conditional operators in C language.

(D) Write any **one** : 5

    (1) Discuss the basic structures of C language.

    (2) Discuss two categories of programming language. Further discuss C language is middle level language.

2 (A) Give the answer of following question : 4

    (1) _____ is used to come out from switch case statement.

    (2) _____ is format for integer variable in print() of C language.

    (3) _____ is format for long integer variable in scanf( ) of C language.

    (4) for(; ;){ ... } is an _____ loop.

(B) Write any **one** : 2

    (1) Difference between switch( ) and if-else statement of C language.

    (2) Explain getch( ) function of C language.

(C) Write any **one** : 3

   (1) Discuss while loop of C language with example.

   (2) Write a C++ program for Fibonacci series also write its output.

(D) Write any **one** : 5

   (1) Discuss in detail printf( ) function of C language with example.

   (2) Discuss in detail for loop of C language with example.

3 (A) Give the answer of following question : 4

   (1) Vital statistics is a part of _____.

   (2) Population census is a sort of _____.

   (3) The overall impact of developed medical aid on life expectancy can be evaluated from _____.

   (4) Life-table has also been named as _____.

(B) Write any **one** : 2

   (1) Define CDR

   (2) Define vital statistics.

(C) Write any **one** :　　　　　　　　　　　　　　　　　　　**3**

(1) Fill in the blanks of the following table which are marked with question marks.

x	l_x	d_x	q_x	p_x	L_x	T_x	e_x
9	75824	?	?	?	?	?	?
10	75362	418	?	?	?	4953195	?

(2) Write the uses of demographic statistics.

(D) Write any **one** :　　　　　　　　　　　　　　　　　　　**5**

(1) Explain in brief different methods of collecting vital statistics.

(2) Compare the standards of health of the following two towns by taking town A as the standard one

Age	Town A		Town B	
	Population	No. of death	Population	No. of death
<5	5000	150	2000	50
5–15	8000	120	3000	36
15–50	12000	120	4000	40
Above 50	3000	75	3000	84

4　(A) Give the answer of following question :　　　　　　**4**

(1) The sum of age specific fertility rates multiplied by n in the age interval x to $(x + n)$ provides the estimate of _____.

(2) Population growth is measured in terms of _____.

(3) Number of daughters expected to be borne to 1000 newly borne girls is equivalent to _____ per thousand.

(4) Gross reproduction rate cannot be _____ net reproduction rate.

(B) Write any **one** :   2

(1) Define CBR

(2) The total population of a city, is 2 lakhs and of them 45% are females. Among the females 48% are in child bearing age groups. If General Fertility Rate of the city is 35, find the expected number of children that will be born during the next year.

(C) Write any **one** :   3

(1) Give the formula for Gross Reproduction Rate (GRR).

(2) The total population a district is 24 lakhs and in the district there are 920 females per thousand males. 50% of the females are in child bearing age groups. If General Fertility Rate of the district is 32. Find the expected number of children that will be born in the district during the next year.

(D) Write any **one** :   5

(1) Comment on the values of Net Reproduction Rate (NRR).

(2) From the following data about a city calculate GFR, SFR, TFR. If total population of the city is 6 lakhs. Find the CBR.

Age Year	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 – 44	45 – 49
Number of Females (in '000)	50	45	40	35	30	20	15
Births	1105	5100	6300	4200	2700	600	63

5 (A) Give the answer of following question :   4

(1) Any hypothesis which does not involve the parameters of a probability function will be test by _____ tests.

(2) When the observations are arranged in ascending or descending order, they are said _____.

(3) Sign test utilizes _____ distribution.

(4) In median test the variable u, the number of X's to the left of median is the pooled sample for given t, the total number of observation to the left of the median follows _____ distribution.

(B) Write any **one** :   2

(1) Define nonparametric techniques and write its advantages.

(2) Define a RUN in a sequence of symbols.

(C) Write any **one** :   3

(1) Explain Median test.

(2) Explain Mann-Whitney - Wilcoxon U-test.

(D) Write any **one** :   **5**

(1) Use the Mann-Whitney U test and the following data to determine whether there is a significant difference between the values of group-I and group-II. Let $\alpha = 0.05$

Group – I	70	68	73	81	66	56	62	75	83	48	
Group – II	72	67	74	65	63	77	71	60	76	61	64

(2) Write advantages and disadvantages of nonparametric methods over parametric methods.

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