Total number of printed pages-8 9vod 3 (Sem-6/CBCS) STA HE 2 (Choose the correct option) 2022 computed for STATISTICS m Infant (d) children (Honours Elective) Paper: STA-HE-6026 (Demography and Vital Statistics) ent for the years real full Full Mark's rears Time of Three hours win the blank) The figures in the margin indicate full marks for the questions. noved the relation between N.R.R. and G.R.R. Answer the following questions as directed: (Fill in the 1×7=7 (any seven) N.R.R. and G.R.R. are usually If the last census population, migration (a) births and deaths data for a region in gg a given time period are given, then the population at the time t can be ned restimated by the formula (with usual g(glbin the blank) notation) as (i) $\hat{P}_t = P_0 + (B - D) + (I - E)$ (vi) as than (noite $\hat{P}_t = (B - D) + (I - E)$ True or False) (iii) $\hat{P}_t = P_0 \{ (B - D) + (I - E) \}$

(Choose the correct option)

- (b) Infant mortality rate is computed for children

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 - (i) above the age of 1 year
 - (z(ii) under the age of 1 year
 - (iii) between the age of 1 to 3 years
 - (iv) None of the above III

 (Choose the correct option)
- Answer the following questions as sirected:

 (any seven)
- (i) N.R.R. and G.R.R. (i)

 (a) If the last census portalism, migration births and deaths data for a region in the births and deaths data for a region in check. R.R.R. Security in the population at the time t can be population at the time t can be notation) as .R.R.N. (iii) usual notation) as .R.R.N.
 - (iv) None of the above (1)

 (G-1) (Choose the correct option)

(b) ren	Which of the following is not a vital event?
	good medical care.
	(ii) Marriage following
2×4=8	Answer any four of the following iii) Education ate 1070.75
death	(iv) Migration ale live birth = 100
of the	(Choose the correct option)
(e)	mortality of population of a cou Census provides information for the
stable	only only (Fill in the blank)
foll	diese de population. : guiwo
\mathcal{G}	The ratio between the number of males
10 200	and the number of females in a given
	population is called arrangements.
g crude	(Fill in the blank) (a) Explicate the method of obtaining their section of the s
(g)	Vital rates are customarily expressed
ndex of	as
od di (h)	The probability of living reveals the rate. (Fill in the blank)
derl	sie O callo the usual notations, prove t
	Female C.D.R. is generally less than
	male C.D.R. (State True or False)
777	

Isti(j) s If vital index is greater than 100, then the population is regarded as having good medical care.

(State True or False)

(ii) Marriage

Answer any four of the following: (m) Education

Define crude death rate. Is crude death (a) an accurate measure of the ? census provides information for the

(Myb) Distinguish stationary and stable population.

The ratio between the number of males nev(c) & What are the important sources of

demographic Idata? noitslugog

(Fill in the blank) Explicate the method of obtaining crude (g) Vital rates are customarily expressed

What is meant by Pearl's vital index of population and how can it be The probability of Sbarusasme (Fill in the blank) rate.

In the usual notations, prove that Female C.D.R. is generallx1bss than male C.D.R. 2001 (State Truxbor False)

- If $nP_x = \text{Prob}_x$ (a man aged x years to note survives n years), then prove that $P_x = P_x \cdot P_{x+1} \cdot P_{x+n-1} \cdot P_{x+$
 - (h) Calculate G.R.R. from the following

data:

O Describe the uses of vital statistics.

27.0701 = atar ytilitral statistics.

(g) In the usual notations, prove that 001 = htrid evil element of female live birth = 100

Total number of male live birth = 105

3. Answer any three questions from the following: 5×3=15

with usual notations

Write a note on standardised birth rate.
(a) Define and discuss specific death rate.

Also mention its merits and demerits.

Answer any three of the following

- delignified? What is expectation of life? Distinguish the curtate between the complete they calculated?
- (b) Define G.R.R. and N.R.R. in detail with
- Explain infant mortality rate. Also state its advantages and drawbacks.

- (e) The number of persons dying at age 75 is 476 and the complete expectation of life at 75 and 76 years are respectively 3.92 and 3.66 years. Find the numbers gniwolldiving at ages 75 and 76.0160 (1)
 - (f) Describe the uses of vital statistics. Total fertility rate = 1070.75
 - (g) In the usual notations, prove that

Total number of
$$\frac{dT_x}{dx} = \frac{dT_x}{dx}$$
 by $\frac{dT_x}{dx} = 105$

3. Answer
$$ar(0) = (a + 1) = (a + 1$$

- . tate. (a) Write a note on standardised birth rate.
- its merits and demerits. three of the following 08=8×01 What is expectation of life: anoitsaupish
 - What purpose is served by standardised death rates and how are they calculated?
 - Write the uses of life tableann (b) Define G.R.R. and N.R.R. in detail with their merits and demerits. Also derive the relationship between them.

 subsequent beas segmented (4+4)+2=10

- assumptions it is based? Describe in detail the construction of a complete life table.

 1+4+5=10
 - (d) Discuss different fertility rates comparing their merits and demerits.
- Define central mortality rate and force of mortality in a life table. Show that usual notations: series and force table. Show that the series in a life table. Find the table of table o

(i) a person again
$$\frac{d}{x}m = \frac{d}{2} + vill di(i)$$
 in three years;

- (f) Write notes on the following: 3+3+4=10
 - (i) Dependency ratio
 - (ii) Population composition and characteristic
 - (iii) Use of balancing equation

8

Write a brief note on shortcomings assumptisoitsitate lativoto Describe in with usual notation prove that $q_x = \frac{1 - (e_x - e_{x+1})^{-1}}{1 + e_{x+1}}$ Discuss different fertility rates 5 comparing the Given $l_{91}^{\text{attiss}} = 871$ and gainequotee. x : 91 92 93 94 95 96 97 98 99 100 d_{x} : 296 209 144 93 58 34 18 10 5 where l_x and d_x have their usual 01=(E+Emeaning as in a life table. Find the probability that a person aged 93 will die in three (i) years; (ii) a person aged 92 will survive up 4. Answer to age 96; $i_{1+x}i_{2}=xT$ (ii) (iii) three persons aged 92, 93 and 94 will survive 4 years. boff white notes on the following we (a) of are work than calm that at 4=10 calculated.? (i) Dependency ratio (ii) Populačion composition (d) Almin Serlar and characteristic m tinds (iii) Use of balancing equation