

LIHMR UNIVERSITY
Institute of Health Management Research
MBA Hospital and Health Management
Batch-23 (2018-2020)
First Year



Essentials of Demography
Term Examination

Time - 3 Hour

MM-70

Note: The question paper contains 4 printed pages. Answer all sections as per the instruction given in each particular section.

SECTION- A
(Attempt All Questions)

Q. 1 All Questions are compulsory.

- a) What are the salient features of Indian Census? [2 Marks]
- b) Define Demographic Dividend? [1 Mark]
- c) If the Median age of a country's population is 18, what does it explain about age structure of the country's population? [1 Mark]
- d) Net Reproduction Rate (NRR) is always greater the Gross Reproduction Rate (GRR). Identify the statement as True/False. [1 Mark]
- e) India is in third stage of demographic transition. Identify the statement as True/False. [1 Mark]
- f) Name the different components of Ante-Natal Care (ANC) services according to World Health Organization (WHO). [2 Marks]
- g) According to the Sample Registration Bulletin May 2018, the Maternal Mortality Ratio of India during 2014-16 was ___ per 100000 livebirths. [1 Mark]
- h) Information related to Domestic Violence against Indian women can be obtained from which demographic data source? [1 Mark]
- i) Which one of the following is not a spacing method of family planning? [1 Mark]
 - i) Barrier Method
 - ii) Harmonal Method
 - iii) Tubectomy
 - iv) Oral Pills
- j) Post Enumeration Surveys are indirect measures data evaluation and error detection. Identify the statement as True/False. [1 Mark]

Q. 2 Write short notes on any two of the following

[2 X 5 Marks]

- Assumptions of a life table
- Age sex pattern of mortality
- Push and Pull factors of Migration
- Age Dependency Ratio



SECTION- B

(Attempt Any Four Questions)

[4X 12 Marks]

Q. 3. Define Population Census? Explain essential features and uses of the Indian Population Census with suitable examples.

Q. 4. Define death, foetal death, stillbirth and maternal mortality. With the help of suitable examples, explain basic measures of mortality explaining the situation in India?

Q.5. Use the data of the following table to estimate the Whipple's index at the terminal digit 0 and 5 jointly ($W_{0,5}$). Comment and compare on the results for both the states.

Table 1: Single year age population data of Kerala and Rajasthan, Census of India, 2011

Age	Kerala	Rajasthan	Age	Kerala	Rajasthan
23	524597	1074210	43	437207	500002
24	533198	1061571	44	420338	448385
25	546715	1564127	45	572618	1258366
26	526650	1039906	46	450054	512148
27	510651	829737	47	418998	379713
28	536685	1259430	48	495898	670726
29	483391	655297	49	410962	324451
30	579855	1713925	50	530352	1192020
31	466740	630922	51	371941	340225
32	484742	994181	52	354720	422944
33	448856	697686	53	328022	288568
34	475308	685969	54	343110	273051
35	572123	1498081	55	472631	818593
36	508215	775195	56	340433	311133
37	472243	557122	57	283682	207009
38	553249	1005675	58	373157	365938
39	473843	498491	59	272505	194776
40	601775	1542695	60	443926	914904
41	450343	499225	61	254290	239423
42	502835	745048	62	265229	275959
Total Population (23-62)				18092087	29266827

- Q. 6. Given the following data for the year 2001. Calculate CBR, GFR, ASFR, TFR, GRR and NRR for the following table using Mid-year population as 1025871856 and the sex ratio at birth as 104 (M/F).

Age	Female	Birth	Five-year Survival Ration (L_x/IO)
15-19	46275899	2025077	3.632
20-24	43442982	9692941	3.515
25-29	41864847	7527205	3.381
30-34	36912128	2605659	3.235
35-39	34535358	1029306	3.079
40-44	25859582	218073	2.914
45-49	22541090	100451	2.74

- Q. 7. Find out the value of missing cells (Cell 1-12) and complete the life table.

Age interval	Proportion Dying	No. Living at beginning of Age interval	No. Dying during age interval	Person years lived during interval	Total no. of person years lived in the future	Avg remaining lifetime
$x, x+n$	nq_x	l_x	$n d_x$	$n L_x$	T_x	e_x^0
0-1	0.0723	100000	7230	Cell 4	6011977	60.12
1-4	0.0765	92770	7097	Cell 5	5917038	Cell 10
5-9	0.0093	85673	797	426374	5560862	64.91
10-14	0.0062	84876	526	423066	5134488	60.49
15-19	0.0064	84350	540	420401	4711422	55.86
20-24	0.008	83810	670	417375	4291021	51.20
25-29	0.0071	83140	Cell 2	414223	Cell 8	46.59
30-34	0.0098	82549	809	410725	3459423	41.91
35-39	0.0149	81741	1218	405658	3048698	Cell 11
40-44	0.0218	Cell 1	1755	398224	2643040	32.82
45-49	0.0317	78767	2497	387594	2244816	28.50
50-54	0.0451	76270	3440	Cell 6	1857222	24.35
55-59	0.0649	72830	4727	352336	1484470	Cell 12
60-64	0.1114	68104	7587	321552	1132135	16.62
65-69	0.1661	60517	10052	277455	Cell 9	13.39
70-74	0.2282	50465	11516	223535	533127	10.56
75-79	0.3176	38949	Cell 3	163819	309592	7.95
80-84	0.4913	26579	13058	100249	145773	5.48
85+	1	13521	13521	Cell 7	45524	3.37

Note: ASDR 85+ (M_{85+}) is 297 per 1000 population.

Q. 8. Estimate net intercensal migration of the following states in between two censuses conducted in the year 't' and 't+n':

States	Lifetime In-migrants (I)		Lifetime Out-Migrants (O)	
	t	t+n	t	t+n
Andhra Pradesh	530843	639939	726226	749864
Bihar	713905	763020	1099642	1468729
Gujarat	539752	732414	536750	484679
Haryana	733452	1026332	734148	966330
Karnataka	882599	934022	832512	896820
Kerala	170926	200500	480066	532636

*Overall survival ratio (both S_o & S_i) both in-migrants and out-migrants during the period 't' to 't+n' are 0.901

Q.9. Define Migration? What are different streams of Migration? Explain the socio-economic and health consequences of migration?

