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SIIS 196 B-14
B.Sc. IIIrd Semester Degree Examination
Mathematical Statistics
(S.Q.C And Demographic Methods)
Paper - III

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates:

Statistical tables and graph sheets are supplied on request

I Answer the following questions

1. The process control is achieved through the technique of (1)
 - a) Sampling inspection
 - b) Pie chart
 - c) Control chart
 - d) Bar chart
- 2) Main tools of S.Q.C are (1)
 - a) Shewart chart
 - b) Acceptance sampling plan
 - c) Both a and b
 - d) None of these
- 3) Control chart applicable for variables is (1)
 - a) \bar{x} - chart
 - b) p - chart
 - c) c - chart
 - d) None of these
- 4) Acceptance sampling plan are preferable due to (1)
 - a) The economy in inspection
 - b) Protection to perishable items
 - c) Increase efficiency in the inspection items
 - d) All the above
- 5) L(p) is the O.C function then average outgoing quality (AOQ) is (1)
 - a) 6σ
 - b) $D_4 \bar{R}$
 - c) P. L(P)
 - d) $(N - n) L(p)$

- 6) vital statistics is mainly concerned with (1)
a) Births b) Deaths
c) Marriages d) All the above
- 7) P_t is the population after time 't' from the census year then usual notations an estimate of P_t is (1)
a) $P_0 + (B+D)$ b) $P_0 + (I - E)$
c) $(B - D) + (I - E)$ d) $P_0 + (B - D) + (I - E)$
- 8) The ratio of births to the deaths in a year is called (1)
a) Survival rate b) T.F.R
c) Vital index d) Population death rate
- 9) In the construction of life table one value of e_x^0 in terms of l_x is (1)
a) $e_x^0 = l_{x+1}/l_x \times p_x$ b) $e_x^0 = T_x/l_x$
c) $e_x^0 = T_x - l_x$ d) $e_x^0 = d_x/l_x$
- 10) The vital index for population growth was provided by: (1)
a) Benjamin b) Baralely
c) Karl pearson d) R pearle
- 11) The variation due to _____ causes is tolerable (1)
- 12) Number of defects follows _____ distribution (1)
- 13) Sources of obtaining vital statistics are _____ (1)
- 14) The probability of ($\mu, \pm 3\sigma$) is _____ (1)
- 15) Total fertility rate formula _____ (1)

II Answer any five of the following questions

- 16) How to construct the control chart explain (5)
- 17) Explain (5)
i) Assignable causes
ii) Chance causes

- 18) Explain the interpretation of \bar{x} and R chart (5)
- 19) Define the following (5)
- i) A. O. Q
- ii) L.T.P.D
- 20) Explain the method of obtaining vital statistics (5)
- 21) Explain the construction of life table (5)
- 22) What is mortality? Discuss C.D.R with merits and demerits. (5)

III Answer any four of the following questions

- 23) Describe the construction of \bar{x} and R charts in detail (10)
- 24) Explain the construction of P and np or 'd' chart and also write the application of p-chart (10)
- 25) Explain the single sampling plan and also how to obtained u.c cune A. O. Q curve and ATI curve for S.S.P 10
- 26) Describe the fertility rate in detail (10)
- 27) What are the assumption description and construction of life table? (10)
- 28) Explain population growth in particular G.R.R and N.R.R (10)

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