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Register Number:

5430

Name of the Candidate:

B.Sc. DEGREE EXAMINATION, 2011

(DOUBLE DEGREE)

(STATISTICS)

(PART-III: PAPER-IV)

740. STATISTICAL QUALITY CONTROL

Dec.)

Maximum: 100 Marks

(Time: 3 Hours

SECTION-A

(8×5=40)

Answer any EIGHT questions
All questions carry equal marks

1. Define 3σ limits and mention its uses.
2. Define quality control and briefly discuss its utilities in industry.
3. What are the applications of C chart
4. Describe the construction of u chart.
5. Describe Acceptance sampling procedure
6. Discuss AQL and LTPD
7. Obtain the probabilities of acceptance to draw OC curve for single sampling plan.
8. Describe Dodge-Romig sampling plan.
9. Define Hazard rate and cumulative hazard rate.
10. Obtain Reliability rate and MTTF for a non-linear hazard model.

SECTION-B

(3×20=60)

Answer any THREE questions
All questions carry equal marks

11. a) Briefly give the interpretations of \bar{X} and R charts.
b) Mention the advantages and disadvantages of control charts for variables.

12. Describe the statistical basis and the construction of p chart when
 - i) the inspected units are fixed.
 - ii) the inspected units vary

13. Explain :
 - i) AOQ and AOQL
 - ii) Producer's and consumer's risks
 - iii) Rectifying inspection plans

14.
 - a) Obtain the function of AOQ for single sampling plan when the lot size is
 - i) finite and ii) infinite
 - b) Explain the steps involved in the procedure of double sampling plan.

15.
 - a) Obtain Reliability rate and MTTF for
 - i) Constant Hazard model
 - ii) Linear Hazard model

 - b) Describe parallel system configuration and obtain the expressions for Reliability and MTTF.

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