LIB
16/12/13FN

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 81160

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Elective

CAD/CAM

CC 9255/CC 955/10222 CDE 43 — METROLOGY AND NON DESTRUCTIVE TESTING

Time : Three hours Maximum : 100 marks

(Control chart factors table may be permitted)

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State any two applications of Machine vision technology.
2. List the use of microprocessors in measurements.
3. Indicate the basis for the computation of control limits.
4. State the errors in sampling process.
5. List any two washable systems.
6. What do you understand by magnetic particle test?
7. Mention two important characteristics of film.
8. Define: Contracts.
9. State the advantageous of Pulse echo method.
10. Write down any two application of A, B, C scans.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss about construction and working of Universal Measuring Machine (UMM) and it's applications. (16)

Or

(b) (i) Explain the working principle of Tool maker's microscope. (8)

(ii) Explain about image shearing microscope with neat sketch. (8)

12. (a) In a moulding process, the results of the inspection of 10 lots of 125 items each are given in the following table: (16)

Lot No:	1	2	3	4	5	6	7	8	9	10
No of defectives:	4	8	9	2	12	6	7	5	4	7

Compute the trial control limits, Plot appropriate chart and write down the remarks.

Or

(b) (i) Explain about any two statistical measures of normal curve. (8)

(ii) Explain any one control chart for variables with all example. (8)

13. (a) Discuss the methods of production of magnetic fields and its limitations. (16)

Or

(b) (i) Explain the characteristics of liquid penetrants. (8)

(ii) Write down the applications of developers. (8)

14. (a) Elaborate about the operation of X-ray equipment, its pros mid cons. (16)

Or

(b) (i) Write down the process of X-ray production. (8)

(ii) Explain about the properties of d-rays. (8)

15. (a) Discuss the principles of acoustic emission techniques and its limitations. (16)

Or

(b) (i) Explain about the general characteristics of waves. (8)

(ii) Explain the production of ultrasonic waves. (8)
