SUBJECT CODE NO:- E-280
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(MECH) Examination Nov/Dec 2017
Metrology and Quality Control
(REVISED)

[Time: Three Hours]   **[Max.Marks:80]**

Please check whether you have got the right question paper.
N.B
        1) Attempt three question from each section
        2) Figure to the right indicates full marks
Section A

Q.1	a)	Define the term metrology and explain the methods of measurement	07
	b)	Differentiate between line standard and end standards give their examples	06
Q.2	a)	Enlist the different types of comparators. Explain pneumatic comparator with neat sketch	07
	b)	What are the various possible sources of errors in measurement? Differentiate between systematic error and random errors	06
Q.3	a)	Explain the principle of an interferometer? How is it used in the absolute measurement of slip gauge dimensions?	07
	b)	Explain construction and working of laser interferometer	06
Q.4	a)	State the various sources in manufacturing gears and name the various types of errors in gears	07
	b)	What is the scope CMM? Explain its different configuration with neat sketch	06

Q.5   Writes a short note on (any three)   14
      a) Calibration
      b) Types of fits
      c) IS 919- 1963
      d) Universal measuring machine (UMM)

2017

Section – B

Q.6   a) Define quality. Explain cost of quality and value of quality   07
        b) Explain the need and importance of TPM   06

Q.7   a) Explain the cause and effect diagram with the help of suitable example   07
        b) Explain 5S and what are its benefits   06

Q.8   a) Explain the use of control chart for variables and Attributes?   07
        b) Explain the characteristics of OC curve   06

Q.9   a) Discuss the technique of standardization   07
        b) What is KAIZEN? Explain in details   06

Q.10   Write short notes on (any three)   14
        a) Pareto analysis
        b) Value engineering
        c) ISO 9000 standards
        d) Process capability

2017