M. TECH.-II (MECHANICAL CAD/CAM) (CBCS – 2015 COURSE) : SUMMER - 2018

SUBJECT : PRECISION ENGINEERING

Day : **Friday** **S-2018-3012** Time : **11.00 AM TO 02.00 PM**

Date : **15/06/2018** Max. Marks : 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both sections should be written in the **SEPARATE** answer books.
4) Draw neat and labelled diagram **WHEREVER** necessary.
5) Assume suitable data, if necessary.

SECTION - I

Q. 1 Explain concept of spindle rotation accuracy with suitable sketch in machine tools. **(10)**

OR

Explain meaning of error. List various types of error and explain any one in detail **(10)**

Q. 2 Explain necessity of geometric dimensioning and tolerances in CAD/CAM **(10)**

OR

What are the types of fits? Explain any two in detail. **(10)**

Q. 3 Explain effect of forced vibrations in various types of machine tools. **(10)**

OR

Explain effect of feed, approach angle and nose radius on surface roughness of the workpiece. **(10)**

SECTION - II

Q. 4 Explain optoelectronic measurement system used in metrology. **(10)**

OR

Explain how LASERS are used in micro holes measurement and topography measurement. **(10)**

Q. 5 Discuss various ultra-precision position control system. **(10)**

OR

Explain various guiding systems for moving elements in position systems. **(10)**

Q. 6 Explain how quality assurance is different form quality control in manufacturing engineering. **(10)**

OR

Define briefly Co-ordinate Measuring Machine (CMM). State the advantages and list various applications. **(10)**

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