

M. Tech.-IV (Mechanical CAD/CAM) (CBCS – 2015 Course) :

SUMMER - 2019

SUBJECT : SELF STUDY PAPER- II : f) THEORY OF ELASTICITY & PLASTICITY

Day : Thursday

Time : 11.00 AM TO 02.00 PM

Date : 13/06/2019

S-2019-3540

Max. Marks : 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answer to both the sections should be written in **SAME** Answer book.
 - 4) Assume suitable data, if necessary.
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SECTION - I

Q.1 Define stress and explain stress tensor. **(10)**

OR

Explain Invariance of deviatoric stress tensor. **(10)**

Q.2 Write short note on invariance of deviatoric strain tensor. **(10)**

OR

Explain deviatoric and hydrostatic components of strain tensor. **(10)**

Q.3 Explain stress-strain relationship for an isotropic body for three dimensional stress space. **(10)**

OR

Discuss differential equations of equilibrium in details. **(10)**

SECTION – II

Q.4 Write short note on “True stress and true strains”. **(10)**

OR

Write short note on “Work of plastic deformation”. **(10)**

Q.5 Explain application of slab method to wire drawing and extrusion. **(10)**

OR

What is upper and lower bound solutions? Explain in details. **(10)**

Q.6 Explain stresses in circular plates due to various types of loading. **(10)**

OR

Explain in details buckling of plates. **(10)**

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