

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

SUMMER - 2019

SUBJECT : ELECTIVE – I : ADVANCED STRESS ANALYSIS

Day : Friday

Time : 11.00 AM TO 02.00 PM

Date : 17/05/2019

S-2019-3517

Max. Marks : 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labeled diagram **WHEREVER** necessary.
 - 4) Answer to both the sections should be written in **SAME** Answer book.
 - 5) Assume suitable data, if necessary.
-

SECTION – I

Q. 1 Discuss stress functions in rectangular and cylindrical co-ordinate systems. **(10)**

OR

How the stress evaluation is performed in a flat plate with center hole/holes using stress function. **(10)**

Q. 2 State and explain different criterions for three dimensional stress analysis using plasticity. **(10)**

OR

Explain stress concentration factors evaluation in different geometrics using plasticity theorem. **(10)**

Q. 3 Explain failure phenomenon in three dimensional stress analysis. **(10)**

OR

Write short note on 'Wear and tear of plastics'. **(10)**

SECTION – II

Q. 4 Explain bending of long uniformly loaded rectangular plate. **(10)**

OR

How the pure bending in two perpendicular directions is evaluated? **(10)**

Q. 5 What is procedure to calculate stress for two bodies in line contact with load tangent to contact area? **(10)**

OR

Explain term 'Gear contacts' **(10)**

Q. 6 Explain different analysis techniques. **(10)**

OR

Write different types of strain gauges and materials. **(10)**

* * * * *
