

# Sri Sairam College of Engineering

AnekalBangalore-562106

## Department of Mechanical Engineering

**Report on**

03.09.19

**5 days FDP On “An Overview of Teaching Technique in Mechanics of Materials”**

**at,**

VTU –HRDC at PG Center Muddenahalli, Chikkaballapur -562101.

A One week faculty development programme on “An Overview of Teaching Technique in Mechanics of Materials” Sponsored by AICTE, from 26<sup>th</sup> to 30<sup>th</sup> aug.-2019. The FDP was attended around 40 participants from faculty members of various VTU colleges across Karnataka.

The FDP aims to:

- 1) To Enhancement the knowledge base in the area of Mechanics of Materials
- 2) Improvement of research studies in Mechanics of Materials.

### **INAUGURAL SESSION:**

The Esteemed personalities present on the inauguration of the programme:

- 1) Dr. Chikkanna, Coordinator, PG Center Muddenahalli.
- 2) Dr.C Aswin, Coordinator, PG Center Muddenahalli.
- 3) Dr. AS Deshpande, Register VTU (chief guest)
- 3) All department HOD’s, Coordinators & faculty members from various VTU affiliated colleges.

Dr. Chikkanna, welcomed all the respected dignitaries and participants in his speech, & Dr.Gayatri, professor, dept. of DSP, explained about the programme schedule, Dr. AS Deshpande, Register VTU encouraged the program, & Emphasized the benefits of such kind of resourceful activity organized by PG Center Muddenahalli in his speech.

### **TECHNICAL SESSIONS:**

#### **1<sup>st</sup> Day (26/08/19):**

**Dr. Shanmukha Nagaraj**, Professor, Dept. of Mechanical Engg, RVCE-Bangalore, he has explained following topics in details:

Introduction, Properties of materials, Stress, Strain and Hooke’s law, Stress strain diagram for brittle and ductile materials, True stress and strain, Calculation of stresses in straight, Stepped and tapered sections, Composite sections, Stresses due to temperature change, Shear stress and strain, Lateral strain and Poisson’s ratio, Elastic constants and relations between them.

## 2<sup>nd</sup> Day (27/08/19):

**Dr. Satishchandra KT** (former professor, dept. of civil, rvce Bangalore) he has explained following topics in details:

Deflection of beams, slope, & curvature, sign conventions, derivation of moment curvature equation, double integration method & Macaulay's method, slope & deflection for standard loading cases & for determinate prismatic beams subjected to point loads, UDL, UVL & couple.

**Dr. Siddaramappa V itti** (principal & professor dept. of civil engg, SGBIT Bealaghavi) he has explained following topics in details:

Introduction to three dimensional state of stress, Stresses on inclined planes, Principal stresses and maximum shear stress, Principal angles, Shear stresses on principal planes, Maximum shear stress, Mohr circle for plane stress condition.

## 3<sup>rd</sup> Day (28/08/19):

**Dr. PL Srinivas murthy**, associate prof, DME, RIT, Bangalore he has explained following topics in details: Type of beams, Loads and reactions, Relationship between loads, shear forces and bending moments, Shear force and bending moments of cantilever beams, Pin support and roller supported beams subjected to concentrated loads, uniformly distributed constant / varying loads. Bending and shear stress distribution in rectangular, I and T section beams.

## 4<sup>th</sup> Day (29/08/19):

**Dr. T Krishna Rao**, prof, & HOD Mech Engg Dept, Global academy of tech. Bangalore- he has explained following topics in details:

Torsion: Circular solid and hollow shafts, Torsional moment of resistance, Power transmission of straight and stepped shafts, Twist in shaft sections, Thin tubular sections, Thin walled sections. Compound stress: introduction, state of a stress at a point.

Column & struts: introduction, short & long column. Eulers theory, assumptions.

Derivation for Euler's buckling load for different end conditions, limitations of Eulers theory. Rankine-gordon's formula for column.

## 5<sup>th</sup> Day (30/08/19):

**Dr. KB Prakash**, Principal govt engg college Haveri, has delivered his talk on:

“Human values & professional Ethics”

**Dr. Sarnabasappa C Sajjan**, prof, dept. of mechanical engg, KLE Hubli, he has explained following topics in details:

Thin cylinder: Hoop's stress, maximum shear stress, circumferential and longitudinal strains, Thick cylinders: Lame's equations, Strain Energy: Strain energy due to axial, shear, bending, torsion and impact load. Castigliano's theorem I and II and their applications.

Dr. Baswaraj & Dr. Teertaprasad Coordinators of the FDP, conducted test for all participants.

**VALEDICTORY SESSION:**

Dr.Baswaraj, coordinator, summarized the program. All the personalities appreciated the PG center department for organizing FDP. The program was ended with vote of thanks by Dr.Teertaprasd & Coordinator of the FDP, & finally distributed attendance certificates to all participants.

**OUTCOME:**

All the sessions were very much informative. The discussed areas are of great benefit for the participants as the topics match with the current working domain in the field of mechanics of materials. Participants were enlightened with the most widely used advance technologies in this domain. This in turn will help in doing research activity and teaching well for 3rd semester mechanical students. Finally programme was outstanding.