| **Discipline**:-<br>Mechanical Engg. | **Semester**:-<br>**3rd** | **Name of the Teaching Faculty:-**<br>Er. SUSIL KUMAR KANDI |
|---|---|---|
| **Subject**:-<br>**DESIGN OF MACHINE ELEMENTS** | **No. Of days/week class allotted -05** | **Semester from**: 01.08.2023<br>To: 30.11.2023<br>No. Of weeks:- 17 |
| **Week** | **No. Of Period** | **Theory Topics** |
| 01.08.2023<br>To<br>05.08.2023 | 1st | Introduction to Machine Design and Classify it |
| | 2nd | Different mechanical engineering materials used indesign |
| | 3rd | Their uses and their mechanical and physicalproperties. |
| | 4th | Define working stress, yield stress, ultimate stress & factor of safety |
| 07.08.2023<br>To<br>12.08.2023 | 1st | Stress –strain curve for M.S &C.I. |
| | 2nd | Modes of Failure (By elastic deflection, generalyielding & fracture) |
| | 3rd | State the factors governing the design of machineelements. |
| | 4th | Describe design procedure. Joints and theirclassification |
| | 5th | State types of welded joints |
| 14.08.2023<br>To<br>19.08.2023 | 1st | State advantages ofwelded joints over other joints. |
| | 2nd | **INDEPENDENCE DAY** |
| | 3rd | State types of riveted joints |
| | 4th | types of rivets |
| | 5th | Describe failure of riveted joints |
| 21.08.2023<br>To<br>26.08.2023 | 1st | Determine strength of riveted joints |
| | 2nd | Determine efficiency of riveted joints |
| | 3rd | Solve numericals |
| | 4th | Design riveted joints for pressure vessel |
| | 5th | Continuation of previous topic |

| Week | No. Of period | Theory Topics |
|---|---|---|
| 28.08.2023 To 02.09.2023 | 1st | Solve numerical on Welded Joint |
| | 2nd | Solve numerical on Riveted Joint |
| | 3rd | RAKSHA BANDHAN |
| | 4th | State function of shafts. |
| | 5th | State materials for shafts |
| 04.09.2023 To 09.09.2023 | 1st | Design solid & hollow shafts to transmit a given power at given rpm based on Strength and Rigidity |
| | 2nd | Continuation of previous topic |
| | 3rd | JANMASHTAMI |
| | 4th | State standard size of shaft as per I.S. |
| | 5th | State function of keys & it's types |
| 11.09.2023 To 16.09.2023 | 1st | solve numericals |
| | 2nd | Types of keys & material of Keys. |
| | 3rd | Types of keys & material of keys. |
| | 4th | Describe the list of material for keys |
| | 5th | Describe failure of keys |
| 18.09.2023 To 23.09.2023 | 1st | effect of key way. |
| | 2nd | **GANESH CHATURTHI** |
| | 3rd | NUAKHAI |
| | 4th | Design rectangular sunk key. |
| | 5th | Considering its failure against shear force |

| Week | No. Of period | Theory Topics |
|---|---|---|
| 25.09.2023 To 30.09.2023 | 1st | Considering its failure against crushing |
| | 2nd | Design rectangular sunk key by using empirical relation for given diameter of shaft |
| | 3rd | Continuation of previous topic |
| | 4th | BIRTH DAY OF MAHAMMUD |
| | 5th | State specification of parallel key |
| 02.10.2023 To 07.10.2023 | 1st | GANDHI JAYANTI |
| | 2nd | State specification of parallel key, Gib -head key, key as per I.S. |
| | 3rd | Solve numerical |
| | 4th | Revision of previous chapter |
| | 5th | Numericals on parallel key |
| 09.10.2023 To 14.10.2023 | 1st | Solve Numericals on Gib-head key |
| | 2nd | Solve Numericals on tapper key |
| | 3rd | Solve numerical on Design of Shaft |
| | 4th | Solve numerical on keys |
| | 5th | MAHALAYA |
| 16.10.2023 To 21.10.2023 | 1st | Design of shaft coupling. |
| | 2nd | Types of coupling |
| | 3rd | Revision of the chapter |
| | 4th | Design of Sleeve or Muff-Coupling |
| | 5th | Design of Clamp or Compression Coupling |
| 23.10.2023 To 28.10.2023 | | DURGAPUJA HOLIDAYS |
| 30.10.2023 To 04.11.2023 | 1st | Solve simple numerical on above |
| | 2nd | Introduction of Spring & it's types |
| | 3rd | Materials used for helical spring |
| | 4th | Standard size spring wire. (SWG) |
| | 5th | Terms used in compression spring |

| Week | No.of period | Theory Topics |
|---|---|---|
| 06.11.2023 To 11.11.2023 | 1st | Stress in helical spring |
| | 2nd | Stress in helical spring for circular wire |
| | 3rd | Deflection of helical spring for circular wire |
| | 4th | Surge in spring |
| | 5th | Types of spring |
| 13.11.2023 To 18.11.2023 | 1st | Solve numerical |
| | 2nd | Solve numerical on closed coil helical spring |
| | 3rd | Discuss on modulus of rigidity |
| | 4th | Discuss on keys & it's types |
| | 5th | Discuss on failure of keys |
| 20.11.2023 To 25.11.2023 | 1st | Solve numerical on shaft |
| | 2nd | ANLA NAVAMI |
| | 3rd | Solve numerical on keys |
| | 4th | Discuss on short type question for semester |
| | 5TH | Discuss on long type question for semester |
| 27.11.2023 To 30.11.2023 | 1st | RAHAS PURNIMA |
| | 2nd | Solve previous year numerical question |
| | 3rd | Discuss important question for semester |
| | 4th | Solve previous year numerical question |
| | | CLOSING OF ATTENDENCE |