**SINCET**

**Department of Mechanical Engineering**

**ME 6601 Design of transmission system cycle test -1 iii mech marks 50**

**part-a (MARKS 5X2=10)**

1. Why is the face of pulley crowned?

2. What is working depth of a gear tooth?

3. Define module.

4. Give any three applications of chain drives. What are their limitations?

5. Under what situation, bevel gears are used?

**part-b**

6. Design a flat belt drive for the following data: Power to be transmitted = 22.5 kW ; driver speed =740 rpm; speed ratio = 3 ; distance between the pulleys =3m;larger pulley diameter=1.2 m. **(12 MARKS)**

7. Design a pair of helical gears to transmit 37.5 kW at 1750 rpm of the pinion. The drive is subjected to heavy shock loading. The speed reduction ratio is 4 and the helix angle is 150. Select suitable material and design the gears. Sketch the drive. **(12 MARKS)**

8. Design a chain drive to actuate a compressor from a 10 kW electric motor at 960 rpm. The compressor speed is to be 350 rpm. Minimum centre distance should be 0.5 m. Compressor is to work for 8 hours/day. **(16 MARKS)**

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