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| 14-1)  A steel spur pinion has a pitch of **6 teeth/in**, **22 full-depth** teeth, and a **20° pressure angle**. The pinion runs at a speed of **1200 rev/min** and transmits **15 hp to a 60-tooth gear**. If the face width is **2 in**, estimate the bending stress |  |

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| 15-5)  A steel spur pinion has a **module** **of 1 mm** and **16 teeth** cut on the 20° full-depth system and is to carry **0.15 kW** at **400 rev/min**. Determine a **suitable face width based** on an allowable bending stress of **150 MPa.** |  |

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| 14-14)  A 20° **20-tooth** cast-iron spur pinion having a module of **4 mm drives a 32-tooth cast-iron gear**. Find the contact stress if the pinion speed is **1000 rev/min**, the **face width is 50 mm**, and **10 kW** of power is transmitted. |  |