

淡江大學八十九學年度日間部轉學生招生考試試題

系別：航太工程學系三年級

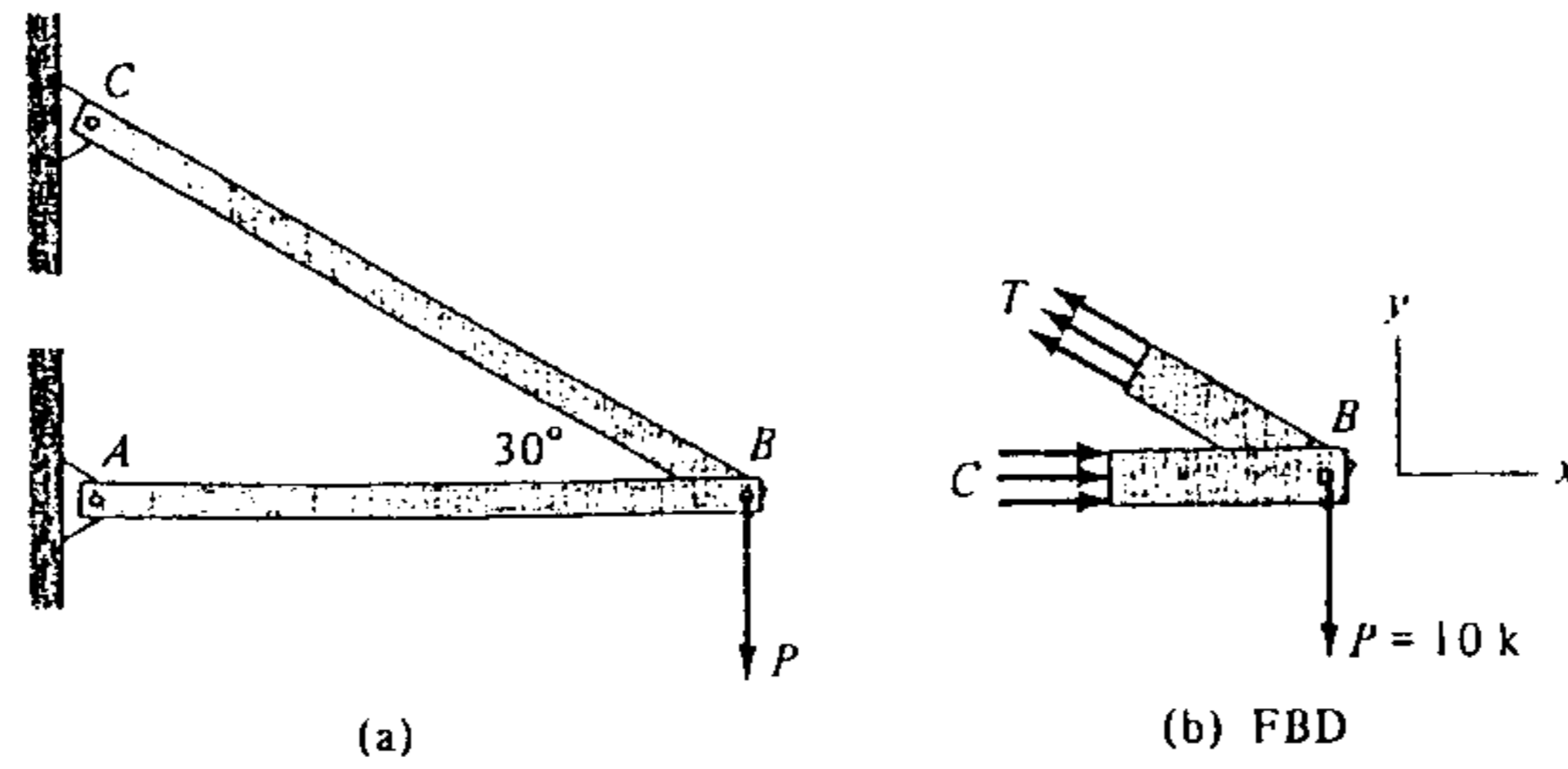
科目：工程力學 (含靜力學、材料力學)

51

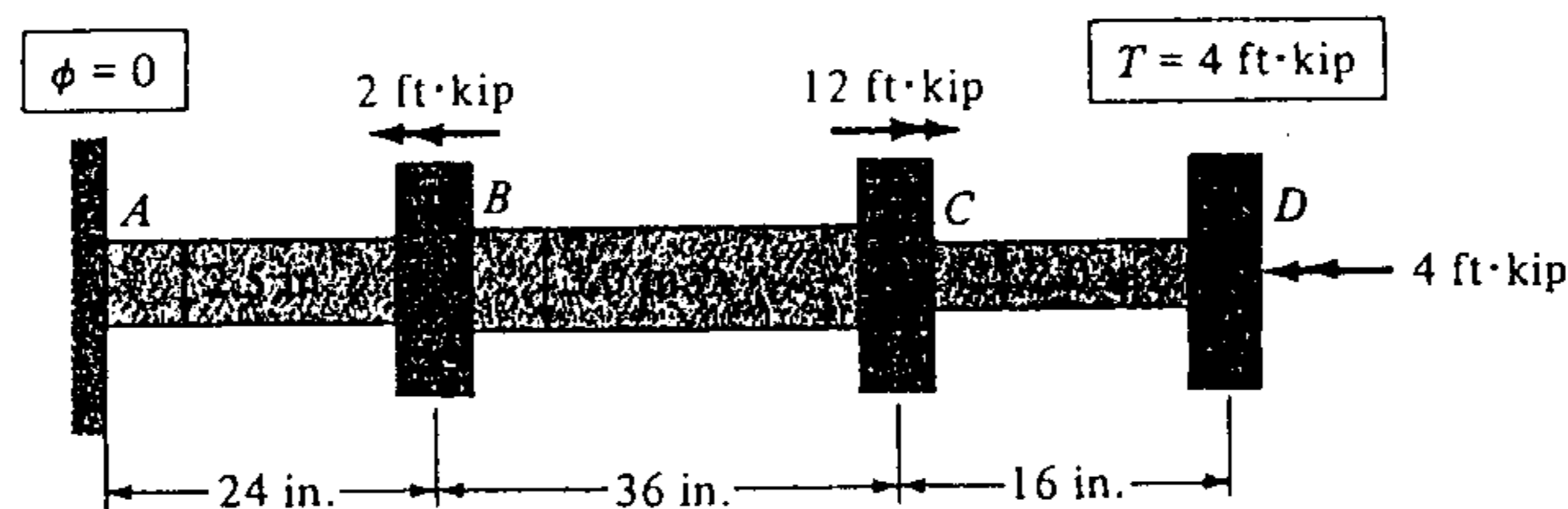
本試題共 1 頁

*所有計算式需詳盡，答案之單位必須寫出。

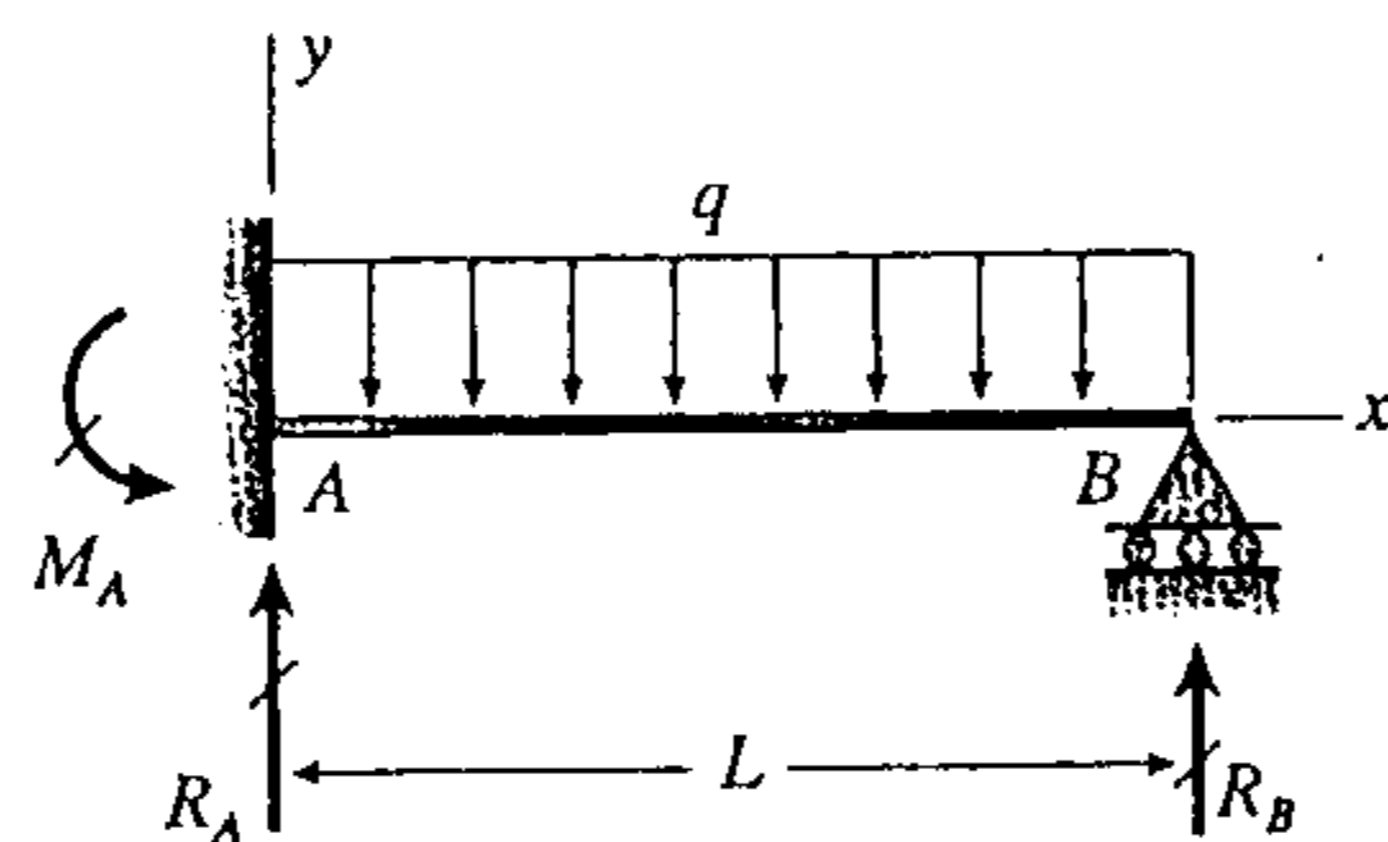
1. (20%) A simple structure consisting of two straight bars each with an area of 1 in^2 as shown the following figure, determine the stress (σ) for each bar.



2. (30%) The gears of a shaft are acted upon by the torques as shown in the following figure. Determine the maximum shear stress of location τ_{AB} , τ_{BC} , τ_{CD} .



3. (30%) A cantilever beam AB of length L supports a uniform load of intensity q . Analyze this beam by solving the second-order differential equation of the deflection curve. Determine the reactions (R_A and R_B), shear forces (V), bending moments (M), slopes (v') and deflections of the beam (v).



4. (20%) Determine the forces acting on joint D, F_{CD} , F_{ED} , F_{FD} , F_{DA} .

