QUIZ 3 - SOLUTIONS
(YELLOW VERSION)

1. Set Cover (MC)

A. 3 C. 2

B. 2 D. V.

2. MAX CUT

(i) UNIQUE MAX CUT $C = \{1,4\}, \{2,3,5\}$

$|C| = 5$

(ii) $1/16$ (iii) $1/4$ 4 cuts of size < 3.

3. BIN PACKING

(i) 3 bins : $\boxed{\frac{2}{8}}\ \boxed{\frac{3}{7}}\ \boxed{\frac{5}{4}}$ = OPT(I)

(ii) 4 bins : $\boxed{\frac{1}{5}\frac{}{2}}\ \boxed{\frac{3}{4}}\ \boxed{7}\ \boxed{8}$

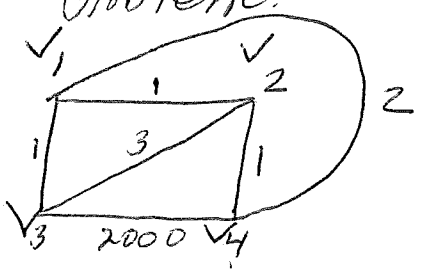
(iii) 3 bins : $\boxed{\frac{2}{8}}\ \boxed{\frac{3}{7}}\ \boxed{\frac{4}{5}}$

(iv) 5 bins : $\boxed{\frac{5}{2}}\ \boxed{4}\ \boxed{7}\ \boxed{1}\ \boxed{8}$

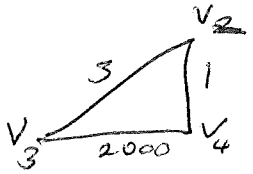
(v.) $5/3$ ratio.

4. TSP Problem.

(i) $G =$



(ii) Δ



is not Euclidean

(iii) OPT is TSP CYCLE IS 2 4 1 3 2 of cost 7. $= OPT$

APPROX ALG GIVES:

MWST = 

, GOING AROUND TSP IN ORDER 3 1 2 4 3 has cost $2000 > 5 \cdot 7$.