

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Operating Systems

Subject Code : CCN2273

Session : Semester Two, 2017/18

Numerical Answers

Question B7

- (a) Total distance that the disk arm moves = 3500
Average = $3500 / 7 = 500$
- (b) Total distance that the disk arm moves = 2406
Average = $2406 / 7 = 343.7$

Question C2

- (b)(i) length of page number = 13 bits, page offset = 15 bits
- (b)(ii) length of frame number = 17 bits, frame offset = 15 bits
- (e) Hit ratio = 46.7%

Question C3

- (c)(i) Turnaround time for:
P1 = 17 ms, P2 = 35 ms, P3 = 40 ms, P4 = 25 ms, P5 = 11 ms
Average = 25.6 ms
Normalized turnaround time for:
P1 = 2.83, P2 = 3.5, P3 = 8, P4 = 3.125, P5 = 1
Average = 3.69
- (c)(ii) Turnaround time for:
P1 = 22 ms, P2 = 37 ms, P3 = 27 ms, P4 = 31 ms, P5 = 40 ms
Average = 31.4 ms
Normalized turnaround time for:
P1 = 3.67, P2 = 3.7, P3 = 5.4, P4 = 3.875, P5 = 3.64
Average = 4.06