

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Computer System Principles **Subject Code** : CCN3133

Session : Semester Two, 2016/17

Numerical Answers

Question 4

- (b)(i) 1880
- (b)(ii) 1560
- (c)(iv) 600 ms (for page fault rate is 0.1) and 60 ms (for page fault rate is 0.01)

Question 5

- (a)(i) 1.667
- (a)(ii) 4.96
- (a)(iii) 5

Question 6

(a)

| | FIFO | | SSTF | |
|------|---------------------|----------------------------|---------------------|----------------------------|
| Step | Next track accessed | Number of tracks traversed | Next track accessed | Number of tracks traversed |
| 1 | 50 | 40 | 80 | 10 |
| 2 | 130 | 80 | 75 | 5 |
| 3 | 20 | 110 | 70 | 5 |
| 4 | 80 | 60 | 50 | 20 |
| 5 | 190 | 110 | 20 | 30 |
| 6 | 75 | 115 | 130 | 110 |
| 7 | 180 | 105 | 180 | 50 |
| 8 | 70 | 110 | 190 | 10 |
| 9 | 200 | 130 | 200 | 10 |
| | Average | 95.55555556 | Average | 27.77777778 |

| | SCAN | | C=LOOK | |
|------|---------------------|----------------------------|---------------------|----------------------------|
| Step | Next track accessed | Number of tracks traversed | Next track accessed | Number of tracks traversed |
| 1 | 130 | 40 | 130 | 40 |
| 2 | 180 | 50 | 180 | 50 |
| 3 | 190 | 10 | 190 | 10 |
| 4 | 200 | 10 | 200 | 10 |
| 5 | 80 | 232 | 20 | 180 |
| 6 | 75 | 5 | 50 | 30 |
| 7 | 70 | 5 | 70 | 20 |
| 8 | 50 | 20 | 75 | 5 |
| 9 | 20 | 30 | 80 | 5 |
| | Average | 44.66666667 | Average | 38.88888889 |