

BIT 5302

Question summarizing queuing Systems

1) Derive Lindley's formula
i.e. calculation of delay for the i th job
arriving in the system.

2) Given the following arrival times
and service time

arrival time = 0, 5, 13, 28, 63, 73, 76, 116, 138, 153

service time = 47, 33, 20, 43, 28, 48, 31, 22, 34, 41

Calculate delay for each job

3) Plot (a) Cumulative no of departures
(b) Cumulative no of arrivals
(c) Number of jobs in queue
versus time.

4) Derive Little's formula that
relates time averaged number of
jobs in system to the average
waiting time in system.