

7. (a) A car rental agency has collected the following data on the demand for five-seater vehicles over the past 50 days. 5

Daily Demand	4	5	6	7	8
No. of Days	4	10	16	14	6

The agency has only 6 cars currently.

- (i) Use the following 5 random numbers to generate 5 days of demand for the rental agency.

Random Nos : 15, 48, 71, 56, 90

- (ii) What is the average number of cars rented per day for the 5 days ?
 (iii) How many rentals will be lost over the 5 days ?

- (b) Entertain U Ltd. hires an air-conditioned theatre to stage plays on weekend evenings. One play is staged per evening. The following are the seating arrangements : 11

VIP rows – the first 3 rows of 30 seats per row, priced at ₹ 320 per seat.

Middle level – the next 18 rows of 20 seats per row, priced at ₹ 220 per seat.

Last level – 6 rows of 30 seats per row, priced at ₹ 120 per seat.

For each evening, a drama troupe has to be hired at ₹ 71,000, rent has to be paid for the theatre at ₹ 14,000 per evening and air conditioning and other stage arrangement charges work out to ₹ 7,400 per evening. Every time a play is staged, the drama troupe's friends and guests occupy the first row of the VIP class, free of charge, by virtue of passes granted to these guests. The troupe ensures that 50% of the remaining seats of the VIP class and 50% of the seats of the other two classes are sold to outsiders in advance and the money is passed on to Entertain U. The troupe also finds for every evening, a sponsor who puts up his advertisement banner near the stage and pays Entertain U a sum of ₹ 9,000 per evening . Entertain U supplies snacks during the interval,