OPERATIONS MANAGEMENT - PART A

Maximum marks: 6 X 5 = 30

1.
   a) Design a check-sheet to collect data on the type of vehicles passing a point on the road, on a daily basis.
   b) Explain what do you mean by lot size, sample size and acceptance number in an acceptance-sampling plan.

2.
   a) What do you mean by the statement "A Process is in control"? Explain how you can determine whether a process is in control.
   b) Distinguish between corrective action and improvement.

3. The marks of 50 students in a class are:

59	51	51	61	46	53	49	53	53	54	53
57	59	51	56	59	62	61	56	48	57	57
55	58	54	45	54	54	57	52	47	51	57
58	50	56	51	52	52	49	55	58	49	53
55	54	63	54	58	47					

   Plot a histogram and comment on the data. The minimum pass mark is 50.

4. Classify the following types of processes as line, intermittent, or project. Explain your reasons. a) Doctor's office b) College class c) A criminal court d) A thermal power plant e) A marriage party.

5.
   a) Explain the concept of cellular manufacturing.
   b) Differentiate between backward integration and forward integration.

6. At a hospital, five blood samples must be scheduled through a blood testing laboratory. Each sample goes through up to four different testing stations. The times for each test and due dates for each sample are as follows:

Sample	Test station / Hours	Due date, hours
1	A/1, B/2, C/3, D/1	8
2	B/2, C/3, A/1, D/4	4
3	C/2, A/3, D/1, C/2	6
4	A/2, D/2, C/3, B/1	10

Prepare a Gantt chart for the four samples for the job sequence 3 2 1 4 and determine the machine utilization as well as makespan.