Code: D-16 **Subject: INDUSTRIAL ENGINEERING**
Time: 3 Hours **June 2006** **Max. Marks: 100**

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or best alternative in the following: (2x10)

a. $\bar{X}$ charts are used for

(A) Process Control **(B)** Production Control
(C) Cost Control **(D)** Variance Analysis

b. Method – Time – Measurement (M-T-M) measures time in

(A) UTMs (Unit Time Measurements)
(B) TMUs (Time Measurement Units)
(C) MTUs (Measurement Time Units)
(D) None of the above

c. An activity oriented technique in network is called

(A) MAPI **(B)** OR
(C) CPM **(D)** EOQ

d. Activity scheduling was developed by

(A) FW Taylor **(B)** Charles Babbage
(C) LHC Tippett **(D)** Gantt

e. The inventory system that continuously discloses the amount of inventory is called

(A) Retail Inventory **(B)** Physical Inventory
(C) Periodic Inventory **(D)** Perpetual Inventory

f. A manual planning and scheduling technique similar to material resources planning is

(A) Line Balancing **(B)** Line of Balance

(C) Routing **(D)** Scheduling

g. A Leader gives decision only after consulting his subordinates in

(A) Authoritarian Leadership style
(B) Autocratic Leadership style
(C) Free Rein Leadership style
(D) Democratic Leadership style

h. A systematic and orderly approach to assess the relative worth of an employee working in an organisation in terms of his job performance, integrity, leadership, intelligence, behaviour, etc is known as

(A) Job Evaluation **(B)** Job Description
(C) Merit Rating **(D)** Comparison Method

i. _____ is suitable for a manufacturing environment in which large variety of products are needed in small volumes (or batches).

(A) Fixed Position Layout **(B)** Product Line Layout
(C) Cellular Layout **(D)** Process Layout

j. Industrial Engineering is closely related to

(A) Marketing Management **(B)** Production Management
(C) Personnel Management **(D)** Finance Management

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. Describe the role and function of an Industrial Engineer. **(8)**

b. What is the meaning of Plant Layout? State the objectives of a good plant Layout. **(8)**

Q.3 a. Discuss the various requirements of a good product design. **(8)**

b. Suggest the methods to increase the productivity of resources in an organisation. **(8)**

Q.4 a. What is a critical path in a project? From the following draw a network and find out the critical path. **(8)**

Activity	Time	Innovate Predecessors
A	2	--

B	4	A
C	8	A
D	3	B
E	2	B
F	3	D,E
G	4	D
H	8	C,F,G

b. Explain OR? Briefly describe various OR Techniques. **(8)**

Q.5 a. Name various kinds of inspection? **(8)**

b. Explain Sampling and its purpose? Explain briefly the various sampling plans using attribute or variables. **(8)**

Q.6 a. What are the principles of motion Economy? State the roles of human motions concerning human body and that of Tools & Equipment Design. **(8)**

b. Distinguish between Method Study & Work Measurement? What are the advantages of work study? **(8)**

Q.7 a. What are the objectives of Material Management? **(8)**

b. What is EOQ? With the help of a graphical diagram explain the terms 'Total Cost' and EOQ. **(8)**

Q.8 a. Distinguish between various styles of Leadership. **(8)**

b. Define motivation. What are the factors affecting motivation? **(8)**

Q.9 a. Explain the factors considered for replacements of an equipment. **(8)**

b. Describe the impact of computer applications in industrial engineering. **(8)**