

**DipLETE – ET (OLD SCHEME)**

Code: DE16

Subject: INDUSTRIAL ENGINEERING

Time: 3 Hours

Max. Marks: 100

**DECEMBER 2009****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 the best alternative in the following: (2×10)**

a. Production of an enterprise refers to

(A) Yearly gross income

(B) Rate of growth of capital

(C) Turnover in a specified period

(D) The ratio of gross income to gross expenditure

b. In what way increase in productivity helps the management?

(A) Better working conditions

(B) To stand better in market

(C) Job security &amp; satisfaction

(D) Reduced price of articles

c. \_\_\_\_\_ is independent of sales forecast

(A) Productivity

(B) Capital budgeting

(C) Production, Planning control

(D) Inventory control

d. The plant location is affected to maximum extent by the single factor

(A) Nearness to market

(B) Proximity to raw materials

(C) Cost of land &amp; building

(D) low wages of laborers in the locality

e. Which factor is given maximum consideration in process layout?

(A) Area of site

(B) Size of product

(C) Type of machines used

(D) Flexibility in arrangement of

operations

f. The symbol for storage is

(A) D

(B) □

(C) ▼

(D) →

g. In inventory control, the economic order quantity refers to

(A) Lowest level to inventory

(B) Lot most economical to process

(C) Optimum lot size

(D) lot corresponding to break-even point

h. ABC analysis is used in

(A) Job analysis

(B) Production schedule

(C) Inventory control

(D) Simulation

i. Job evaluation is the method of determining

- (A) utility of a product
- (B) worth of a machine to perform a specified task
- (C) relative value of a job
- (D) worker's performance on a job

j. Forecasting implies

- (A) Preparation of specifications
- (B) Estimation of future work
- (C) Preparation of work detail
- (D) Determination of time schedule for doing work

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

- Q.2** a. What are the various roles of industrial engineer in an industry? (5)
- b. What are the requirements of a good product design? (8)
- c. Explain simple applications of computer on network techniques. (3)
- Q.3** a. Define Process, Product and Combination layout. (6)
- b. What is the objective of a good plant layout? (4)
- c. What are the factors which affects the plant location? (6)
- Q.4** a. Define Inspection. What is the objective of inspection? (5)
- b. What are the functions of Quality control department? (5)
- c. Define TQM and its functions. (6)
- Q.5** a. State the principle of motion economy. (4)
- b. Define work study and explain the basic procedural steps in conducting work study. (8)
- c. Write short note on time study and standard data. (4)
- Q.6** a. Items manufactured in a factory are locks and lamps. The two products are to be routed through Moulding deptt, Assembly deptt. and Finishing deptt. Capacity of different deptts. per weak is given below :
- Moulding deptt. — 120 dozs locks or 200 dozs lamps
- Assembly deptt — 240 dozs locks or 80 dozs lamps.
- Finishing deptt. — 150 dozs locks or 100 dozs lamps.
- Estimated profit on a lock is Rs. 4 and that on a lamp is Rs. 3 only. A customer is ready to purchase the whole output of the factory. How many each of the product are to be manufactured in order to gain the maximum profit? (8)
- b. Define CPM and what are the advantages of CPM? (8)
- Q.7** a. What is the objective of plant maintenance? Define Predictive maintenance in detail? (8)
- b. Differentiate between rate of return method and MAPI method. (8)

- Q.8** a. What are the requirements of a supervisor for motivating his workers? **(6)**
- b. What are the qualities of a foreman? **(5)**
- c. What are the qualities of good leadership? **(5)**
- Q.9** a. List the steps involved in one complete purchasing cycle. **(6)**
- b. What is EOQ? Also write down the formula of EOQ. **(4)**
- c. List the different methods of job evaluation. **(6)**