DipIETE – ET (OLD SCHEME)

Code: DE16   **Subject: INDUSTRIAL ENGINE**
Time: 3 Hours   **Max. Marks**

JUNE 2011

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.**
• **The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.**
• **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.   Which one of this is job evaluation method?

   (A) Ranking method   **(B)** Rating scale method
   (C) Check list method   **(D)** Employee comparison method

b.   The number of purchase orders to be furnished =

   (A) $\dfrac{\text{Total quantity}}{\text{E.O.Q}}$ **(B)** $\dfrac{\text{E.O.Q}}{\text{Total quantity}}$

   (C) $\dfrac{\text{Total quantity}}{\text{Cost}}$ **(D)** $\dfrac{\text{Cost}}{\text{Total quantity}}$

c.   Data processing functions are

   (A) Data collection   **(B)** Manipulation
   (C) Storage   **(D)** All the above

d.   Foreman is designated as

   (A) Manager   **(B)** Supervisor
   (C) Worker   **(D)** Coordinator

e.   Methods used in selection of alternatives

   (A) Total average method   **(B)** Annual cost method
   (C) Rate of return method   **(D)** Above three methods.

f.   Annual cost =

   (A) Maintenance cost + operating cost **(B)** Operating cost
   (C) Capital recovery + operating cost **(D)** Maintenance cost

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g. Types of inventory models are

    (A) Simple EOQ model   **(B)** EOQ model with stock outs allowed
    (C) Inventory model under risk   **(D)** (A), (B) & (C)

h. Linear Programming is

    (A) Merit rating method   **(B)** One of the operation research method
    (C) Predictive maintenance method   **(D)** Annual cost method

i. Different types of maintenance are

    (A) Inspection maintenance   **(B)** Preventive maintenance
    (C) Predictive maintenance   **(D)** Both **(B)** & **(C)**

j. Merit rating

    (A) Encourages meritorious employees
    (B) Improves employee and employer relations
    (C) Develops the ability of a rater
    (D) All the above

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

Q.2 a. What is the role and functions of an industrial engineer?   Mention any four.   **(4)**

      b. What are the main objectives of Line Balancing?   **(3)**

      c. What are the various kinds of productivity measures?   **(9)**

Q.3 a. What are the requirements of a good product design?   **(6)**

      b. Name and explain the different kinds of inspection in brief.   **(2+8)**

Q.4 a. Define work-study. Why is it needed? What are the advantages of work-study?   **(2+2+4)**

      b. What are the steps involved in motion analysis?   **(8)**

Q.5 a. Explain the different operation research techniques.   **(8)**

      b. In brief explain Queuing Theory and its application.   **(8)**

Q.6 a. What are the objectives and importance of plant maintenance?   **(3+5)**

b. Given below is the data for two equipments. Find out which alternative required to be selected. CRF for 8 years i = 5% is 0.1547 **(4.**

	Equipment –1	Equipment -2
Initial cost	Rs. 10,000.00	Rs. 15000.00
Annual operating cost	Rs. 1000.00	Rs. 800.00
Life of the equipment	8 years	8 years
Salvage value	Rs. 1000.00	Rs. 3000.00
Interest rate 5%		

Q.7 a. Explain Democratic and Free Rein leadership. **(4+4)**

b. What are the various steps involved in handling grievances? **(8)**

Q.8 a. Define job evaluation and what are its objectives? **(2+6)**

b. Define merit rating and what are the different methods of merit rating? **(2+3)**

c. Brief on how computers are used in inventory control. **(3)**

Q.9 a. What are the principle objectives of TQM? **(5)**

b. Define management information systems. What is the purpose of MIS? **(5)**

c. What is the objective of Inventory Control and how it can be achieved? **(6)**