B. Printing Engineering Examination, 2018

(4th Year, 2nd Semester),

INDUSTRIAL MANAGEMENT

<u>Time : 3 hrs.</u>   <u>Full marks : 100.</u>

<u>Attempt any one (a) or (b) in question-1.</u>

1. (a) Name the various method of forecasting and **describe** the various factors affecting
          Forecasting.   (10)

    (b) **Describe "Least Square Method"** of determining sales forecasting with its advant-
         -ages and limitations.   (10)

<u>Attempt (a),(b) and (c) in question-2.</u>

2. (a) **Differentiate** between : (i) EST and LST;   (ii)   Event and Activity;
                                        (iii) PERT and CPM.   (6)

    (b) Define Optimistic, Pessimistic and Most likely time and explain how you will **estimate**
         The expected time to complete the activity in PERT techniques.   (6)

    (c) For the network as shown in **FIGURE**, the time estimate(in day) each for the activity are
         indicated on the diagram, Estimate:

         (i)   The expected time and varience for each activity;
         (ii)   The probability of completing the project in 40 days;
         (iii)   Total project duration;
         (iv)   Mark the critical path.   (8)

<u>Attempt any two from (a),(b) and (c) in question-3.</u>

3. (a) Define packaging and **explain** its objects and state the characteristic of a good

package.   (10)

(b) **Describe** the role of packaging in marketing and name the materials used for
Packaging.   (10)

(c) **Describe** the different packaging methods.   (10)

<u>Attempt any one from (a) and (b) in question-4.</u>

4. (a) The fixed cost for a year is Rs. 1,00,000. The estimate sales are Rs. 3,00,000. The
Variable cost per unit for the single product made is Rs. 5. If each unit sells at
Rs. 30 and the number of units involved coincides with the expected volume of
Output, **construct** the break-even chart :
   (i)   **compute** B.E.P.;   (3)
   (ii)   **find** the profit at a turnover of Rs. 1,80,000.;   (3)
   (iii)   **Find** the margine of safety;   (2)
   (iv)   Measure the angle of incidence.   (2)

(b) A manufacturing company uses 60,000 valves per year and usage is fairly constant at
5000 valves per month. Each valves costs the company Rs. 1.50. The carrying cost for
The company has been estimated at 15% of the average inventory investment.The Cost
To place order and process the delivery is Rs. 30. **Calculate** :
   (i)   Economic order quantity;   (3)
   (ii)   what is the stock turnover rate ignoring safety stocks, if EOQ is
            order frequently?   (3)
   (iii)   What will be the effect on total cost, if stock turnover rate is reduced to 1/3 by
            infrequent ordering?   (4)

<u>Attempt any two from (a),(b) and (c) in question-5.</u>

5. (a) (i) **Explain** the necessity of maintenance management.   (5)
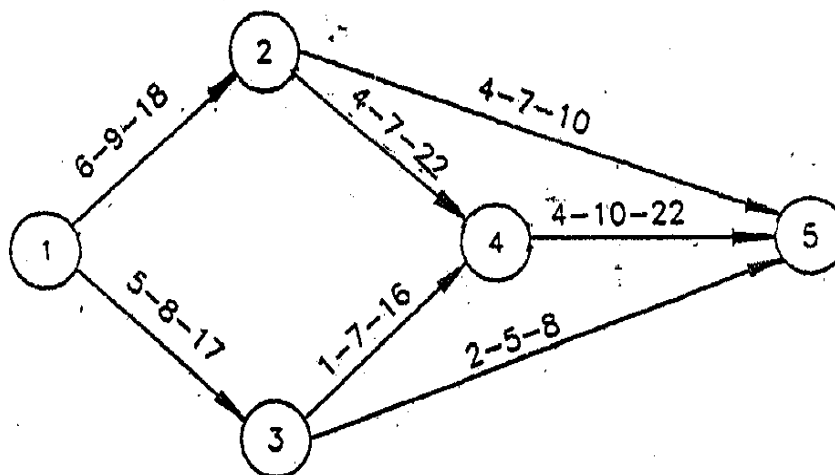
      (ii) How does corrective/ breakdown maintenance **differ** from
           Preventive maintenance? What is the **relationship** between the two?   (7)

      (ii) Describe the brief the "Economic Aspects of maintenance" and how
           You can **select** an optimum maintenance programme?   (8)

(b) (i) **Differentiate** between production and productivity. (4)

(ii) **State** the benefits of increasing productivity to : Management; Workers; Government; Nations; Consumers. (8)

(ii) Describe the various ways to improve Productivity. (8)

(c) i) **Deduce** the formula for determining "**Economic Order Quantity for**" for inventory model with uniform demand. (10)

(ii) In an automatic filling, **175gms** of certain Ink is to be packed in certain container. The permissible variation is **±5gms**. To investgate the capacity of a process, samples of **5 each** were drawn from **10** successive batches, and data were recorded as given below :

Batch	1	2	3	4	5	6	7	8	9	10
Mean (X)	177	177	176	176	174	177	175	176	176	174
Range(R)	3	5	3	8	2	8	5	7	3	2

Assume the process to be within control, establish the the capability Of the process and **compare** it with the stipulated specification. Take d_2 **(size factor) = 2.326.** (10)

FIGURE