INTERMEDIATE EXAMINATION

December 2017

P–9(OMS)
Syllabus 2012

Operation Management and Information Systems

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

This paper contains 3 Sections.

All Sections are compulsory, subject to instructions provided in each Section.

All workings must form part of your answer.

Assumptions, if any, must be clearly indicated.

SECTION–A

There are four questions in this Section, which are compulsory.

1. Answer *any five* of the following questions: 2×5=10

    (a) What are the functions of Production Control?

    (b) Identify principal functions of an operating system, with respect to Operations Management.

    (c) Provide the formula for Capacity of the Process.

    (d) What does a maintenance report indicate?

    (e) Productivity is basically measured in two ways: _____ productivity and _____ productivity.

    (f) Give the full form of :

    (i) CASE

    (ii) VDL

    (g) Mention the types of information that the Marketing Information System supplies.

    (h) In the context of Information Technology Act, 2000, define "Originator".

Please Turn Over

2. Match *List A* with *List B*:   1×5=5

List A		List B	
(a)	Decline Stage	(i)	Change for the better
(b)	Dispatching	(ii)	Analysis of Information from data warehouse
(c)	KAIZEN	(iii)	Profit margins touch a low level, and competition becomes severe
(d)	OLAP	(iv)	Money is transferred from one person's bank account to another person's bank account electronically rather than using a cheque or transferring cash.
(e)	EFT	(v)	Execution of Planning function

3. State whether the following statements are 'True' or 'False':   1×5=5

   (i) Latest start time is the latest occurrence time for the node at which activity arrow terminates.

   (ii) The factories of future will be driven by computers used in CIM systems.

   (iii) Just-in-time production uses a product layout with a continuous flow.

   (iv) An objective of maintenance management is to maximize the repair time and repair cost.

   (v) A Stochastic Model uses random inputs and gets the same output every time you calculate.

4. Fill in the blanks by a word or two: 1×5=5

   (i) The term used to describe the difference between the cost of inputs and the value of outputs is _____.

   (ii) The storage definition language is used to specify the _____.

   (iii) In Regression and Correlation analysis, the ratio of explained variation to the total variation is called _____.

   (iv) Expand OLAP— _____.

   (v) In E-Commerce _____ is like an electronic passport that authenticates identity of an entity.

SECTION–B

There are four questions in this Section. Answer *any three* questions.   15×3=45

5. (a) Describe various stages in the design process.   7

   (b) An 8 hours work measurement study in a plant reveals the following:
   Units produced = 340 nos. Idle time = 17·5%. Performance rating = 130%.
   Allowance = 13% of normal time. Determine the standard time per unit produced.   8

6. (a) "Quality Circles adoption leads to benefits for an organization". List the benefits.   7

    (b) A project consists of 8 activities.

Activity	Immediate Successor
Q	T
R	U
S	V
W	X

Activity "X" is the last operation of the project, and activity "W" is the immediate successor to T, U and V. Draw the network of the project.   8

7. (a) The demand for three months for 60 watt bulbs is given below:

Period	January	February	March
Demand	540	620	760

If the weight assigned to the period of January, February and March are 0·2, 0·3 and 0·45 respectively, forecast the demand for the month of April by using Weighted Moving Average Method.   6

    (b) A Company XYZ has kept records of breakdowns of its machine for a 300 day work in a year as shown below:

No. of Breakdown	Frequency in days
0	45
1	140
2	65
3	35
4	15
Total:	**300**

The firm estimates that each breakdown costs ₹ 620 and is considering adopting a preventive maintenance program which would cost ₹ 250 per day and limit the number of breakdown to an average of one per day. What is the expected annual savings from preventive maintenance program?   9

8. (a) "Virtually each type of goods or service is made by using some variation of one of three process strategies." List the three strategies. Briefly explain each of them by giving suitable example.   1+2×3=7

    (b) List down four Primary and four Secondary functions of maintenance. Identify eight objectives of maintenance management.   2+2+4=8

Please Turn Over

SECTION–C

There are three questions in this Section. Answer *any two* questions.   15×2=30

9. (a) State the advantages and disadvantages of coding.   4+4=8

    (b) With respect to RDBMS, define the following in one or two sentences: 2+2=4

       (i) Relational Algebra

       (ii) Tuple

    (c) From the following two relations of X and Y, find (X-Y):   3

Relation X	
REGN_ID	NAME
1237	AMAR
1238	ARCHNA
1243	BISHNU
1265	NISHIT
1269	NITIN
1281	SAKSHI

Relation Y	
REGN_ID	NAME
1238	ARCHNA
1264	NIMISH
1269	NITIN
1288	SHIVANI
1289	TRISHA

10. (a) Briefly describe basic features of MIS.   8

    (b) What is 'System Testing' and how is it carried out?   1+6=7

11. Write short notes on: 5×3=15

    (a) Main goals of E-Commerce

    (b) Functional areas where transaction processing system is applied in an organisation

    (c) Role of System Analysts and Application Programmers in DBMS

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