Hajee Mohammad Danesh Science and Technology University, Dinajpur.
B.Sc. in CSE Level-4, Semester-I (Jan-Jun), Examination-2014
Course Title- Industrial Management
Course Code- MGT 405
Credit Hour-03

Time-3 hours — Full Marks-90

(The figures in the right margin indicates the marks for respective questions)
USE SEPATATE SCRIPTS FOR EACH SECTION

Section –A
Answer any **Three**

1. a) Define business and mention the traits that should be required to become a business person. 4
   b) What are the objectives of a business? 4
   c) Describe the components of business. 7

2. a) Opine that management is both universal and dynamic. 4
   b) Characterize formal and informal organization and isolate each other. 5
   c) Who is the father of scientific management? Epitomize the principles of scientific management briefly. 6

3. a) Illustrate the basic concepts of network analysis. 5
   b) Project-A is composed of the following activities whose time estimates are given bellow: 10

Activity	Predecessor	Optimistic time (weeks)	Most likely time (weeks)	Pessimistic time (weeks)
A	-	1	2	3
B	A	1	2	3
C	A	2	4	6
D	A	2	5	14
E	C,D	6	12	18
F	D	1	3	5
G	E	10	12	30
H	G	3	5	7
I	H	1	2	3
J	B,I	5	10	15

Requirements:
i) appropriate network diagram
ii) critical path with slack time
iii) variance and standard deviation of C.P.
iv) probability of completion of 2 weeks earlier than expected time
v) project duration at 80 % of probability

4. a) What do you know about productivity? 3
   b) From the following data calculate: 12
   i) partial and total productivity
   ii) productivity index

Particulars	Period-1	Period-2
1. Output a) Finished foods (units)	2800	3200
b) work in progress(units)	1000	4000
% of completion	30	15
price /unit (tk)	1500	1700
2. Inputs		
a) Labor hour(hrs)	17000	13000
Average wage rate(tk)	65	70
b) Materials (tonnes)	25	28
price /unit (tk)	2000	2000
c) Total plant hours worked	2500	2500
plant hours rate (tk)	1500	2100
d) Energy (units)	24000	30000
price /unit (tk)	1000	1200

Assume that in period-1 base year.

Section - B
Answer any Three

1. a) Define industrial engineering. 3
   b) Identify the place of industrial engineer in an organogram. 5
   c) Discuss the tools of industrial engineering. 7

2. a) Distinguish between fixed cost, variable cost and mixes cost. 5
   b) Given data: Fixed cost- 3000/-, BEP- 5000/- 10
   Calculate:
   i) C/M ratio ii) Profit and Margin of Safety when sales is 10,000/-
   iii) Variable cost iv) New BEP if selling price is increased by 6%.

3. a) What are the phases of solving a linear programming problem graphically? 5
   b) M/S Pixy is engaged in producing two types of products; A and B and has total production capacity of 10 tonnes per day. The firm has the permanent contract to supply at least 4 tonnes of A and exactly 3 tonnes of B per day. The daily maximum machine- hours is 270 and each tonne of A and B both requiring 30 machine- hours production time. Analyzing all the factors the per unit production costs of A and B are estimated at tk 15 and Tk18 respectively. Optimize the value with the proper combination of product A and B through graphic method. 10

4. a) Write short notes on: 3X5=15
   i) Deflator
   ii) Effective and efficient management
   iii) Organizing
   iv) Feasibility region
   v) CPM vs. PERT.