Name : ……………………………………………………………

Roll No. : ……………………………………………………………

Invigilator's Signature : …………………………………….

CS/M.TECH(EE)/SEM-3/EMAN-301/2012-13

2012

INTRODUCTION TO MANAGEMENT

Time Allotted : 3 Hours   *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

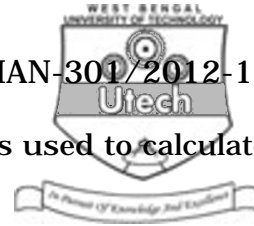### (Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

$$10 \times 1 = 10$$

    i)   Which country is a permanent signatory of the Washington Accord ?

        a)   Brazil   b)   Mexico

        c)   France   d)   Turkey.

    ii)   The latest occurrence time minus the earliest occurrence time of an event gives the

        a)   Total float   b)   Slack

        c)   Independent float   d)   None of these.

40379   [Turn over

iii) A patent application can be made by

    a) True & first inventor

    b) Assignee of true or first inventor

    c) The legal representative of true and first inventor or his assignee after their death

    d) All of them.

iv) The term of Copyright is for a period of

    a) 20 yrs.   b) 40 yrs.

    c) 60 yrs.   d) 80 yrs.

v) Classroom management system acts as a

    a) Static and dynamic unit

    b) Conceptual unit

    c) Technological unit

    d) None of these.

vi) Social learning is also called

    a) Observational learning   b) Contextual learning

    c) Motivational learning   d) None of these.

vii) Multidimensional approach of report writing is directly related with

    a) Format of report writing

    b) Flexible paths of report writing

    c) Techniques of report writing

    d) None of these.

viii) If you can state with statistical validity $x = 2y$, the variables x and y must have been measured on a scale that may (at least) be described as

    a) Nominal   b) Ordinal

    c) Ratio   d) Interval.

ix) The formula $1 - 6 \sum d^2 / n(n^2 - 1)$ is used to calculate correlation when

   a) Data is nominal

   b) Data represent two sets of ranks with ties

   c) Data is ordinal but with no ties

   d) Data is purely ratio scale.

x) Your weight measured on your 3rd, 5th, 10th, 20,th, 22th and 25th birthdays represents

   a) A time series   b) Cross-section data

   c) Panel data   d) Scatter plot.

xi) The expression $[\text{cov}(x, y) / \text{s.d.}_x \text{s.d.}_y]$ ^2 stands for the

   a) Coefficient of correlation

   b) Coefficient of determination

   c) Regression beta(s)

   d) Regression of y on x.

xii) .... is the last link between the manufacturer and the consumer in the distribution channel.

   a) Wholesaler   b) Retailer

   c) Distributor   d) None of them.

xiii) Age is a .... variable.

   a) Demographic   b) Psychographic

   c) Geographic   d) Behavioural.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. Draw a network diagram for the following project which involves erection of the steel work for a shed :

ACTIVITY	DESCRIPTION	PRECEDING ACTIVITY	DURATION (DAYS)
A	Erect site workshop	—	6
B	Fence site	—	5
C	Bend reinforcement	A	12
D	Dig foundation	B	10
E	Fabricate steel work	A, C	9
F	Install concrete plant	B	16
G	Place reinforcement	C, D	6
H	Concrete foundation	G, F	10
I	Paint steel work	E	4
J	Erect steel work	H, I	7
K	Give finishing touch	J	3

Which is the critical path ?

3. Differentiate between the notions of validity and reliability. Discuss construct validity.

4. Differentiate (in 100 words) between univariate, bivariate and multivariate form functions and implicit and explicit form functions as faced in the standard literature of commercial market research. Illustrative examples may help improve scores.

5. State the effectiveness of classroom management system.

6. How do you relate pedagogy mechanism with teaching methodologies.

7. Which are the measurable areas of structural academic institution management system ?

8. Write short notes on :

   a) Inventions not Patentable

   b) Infringement of Copyright.

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

9. A project consists of activities *A, B, C, ..., H, I* where *x* < *y* means that the activity *x* must be completed before *y* can start and *x, y* < *w* means that *w* will start only after completion of activities *x* and *y*. With the notation construct the network diagram for the following constraints :

   A < *D*; *A* < *E*; *B* < *F*; *C* < *G*; *D* < *H*; *E, F* < *I*

The project has the following time schedules for the said

activities :

TASK	OPTIMISTIC TIME t_o	PESSIMISTIC TIME t_p	MOST LIKELY TIME t_m
A	5	10	8
B	18	22	20
C	26	40	33
D	16	20	18
E	15	25	20
F	6	12	9
G	7	12	10
H	7	9	8
I	3	5	4

a) Determine the standard deviation of the project.

b) Determine the probability of an event occurring at the expected completion date if the original scheduled time of completing the project is 41.5.

c) Fine out the project duration within which the project has 90% chance of completion.

Give $P (z \leq -0.52) = 0.30$ and for 0.95 probability, $z = 1.64$

10. Starting with the Central Limit Theorem (CLT) show how sufficiency of sample size is determined for estimation of population mean and proportion. Also discuss the distinction in the final sample size formulae for studying the arithmetic means(s) of a (*ny*) specific and measurable population characteristic when the population under study is homogeneous and when it is not.

11. Distinguish between survey based research design and causal or experimental design. Also write a brief essay on the design and analysis of experiments.

12. Explain the fundamental areas of memory-building and how memory-building is directly associated with learning operation.

13. Explain the functional areas of report writing.

14. Critically discuss the basic quality system procedures of any educational institution.

15. What is a patent ? Explain the procedure for grant of patent.

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