

Roll No. _____

B. Tech.(CSE) – 6th SEMESTER
INDUSTRIAL ECONOMICS AND MANAGEMENT - 13020603
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Answer the following Questions.

- a) What is Supply? (1)
- b) What is profit maximization objective? (2)
- c) Write the price elasticity measurement Formula. (2)
- d) Define Factor Inputs. (2)
- e) Write down any two methods of Pricing. (2)
- f) Define the concept of Cartels. (2)
- g) Define Theory of Game. (2)
- h) What is Gross Domestic Product? (2)

UNIT-I

Q.2. Define Managerial Economics. Explain its scope. (15)

OR

Q.3. Explain any four five objectives of business firm. (15)

UNIT-II

Q.4. (i) What is meant by demand? Mention the factors which influence the demand for commodity. (7)

(ii) What is Demand Estimation? Explain the steps involved in Demand Estimation (8)

OR

Q.5. (i) What is meant by equilibrium price? How is it determined? (7)

(ii) Define Elasticity of Demand. Explain the factors which determine Elasticity of Demand. (8)

UNIT-III

Q.6. (i) What is Production? Explain its factors. (7)

(ii) Discuss the importance of production. (8)

OR

Q.7. (i) Explain Production function in detail. (7)

(ii) Explain Return to Scale in detail. (8)

UNIT-IV

- Q.8. (i) What are the main forms of Market? Discuss the main features of Perfect Competition Market. (7)
- (ii) Distinguish between Perfect Competition and Monopolistic Competition Market. (8)

OR

- Q.9. (i) Explain the process of Business Cycle. (7)
- (ii) Give a brief note on Balance of payment. (8)

*****ETE MAY 2018*****

Roll No. _____

B. Tech (CE/CSE) - 6th Semester
Probability & Statistics –13010602, 13020604
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 75

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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Answer the following Questions.

- a) If x is uniformly distributed with mean 1 and Variance $4/3$. Find $p(x)$ (2)
- b) Discuss about chi- square test with examples (2)
- c) Find the mean of uniform distribution (2)
- d) If x is exponentially distributed with parameter T , Show that the probability that x exceeds its expected value is less than 0.5. (2)
- e) What is the difference between multiple regression and Curvilinear Regression with example (2)
- f) Define Sampling with and without replacement with example (2)
- g) If $2x+3y=10$ and $4x+5y=18$ are the line of regression between two variables x and y . Decide which one is the line of regression x on y (3)

UNIT-I

- Q.2.** (a) Of a large group of a men 5% are under 60 inches in height and 40% are between 60 and 65 inches. Assuming the normal distribution find the mean height and Standard Deviation (7.5)
- (b) Find the mean and Variance of binomial Distribution (7.5)

OR

- Q.3.** (a) A coin is tossed 12 times Find the probability both exactly and by fitting a normal distribution of getting (i) 4 Heads (ii) at most 4 Heads (7.5)
- (b) Show that for the exponential distribution given by $dp = ae^{-x/c} dx$, $0 \leq x < \infty$, $c > 0$, a being a constant, the mean and Standard deviation are each equal to c (7.5)

UNIT-II

- Q.4.** (a) A personality inventory is administered in a private school to 8 boys whose conduct records are exemplary and to 5 boys whose records are very poor. Data are given below
Group A : 110 112 95 105 111 97 112 102
Group B : 115 112 109 112 117
Is the difference between group means significant at the 0.05 level and 0.01 level. (7.5)
- (b) Two population have the same mean, but the SD of one is twice that of the other. Show that in sample, each of size 500, drawn under simple random conditions, the difference of the means will in all probability not exceed 0.3σ where σ is the smaller SD (7.5)

OR

P.T.O.

- Q.5. (a) In an experiment on immunization of cattle from tuberculosis, the following results were obtained

	Type-I	Type-II
Sample no	n = 8	n = 7
Sample Mean	$\bar{x} = 1234$ hrs	$\bar{x} = 1036$ hrs
Sample S.D	$s = 36$ hrs	$s = 40$ hrs

Is the difference in the mean sufficient to warrant that the Type-I is superior to Type-II regarding length of life

- (b) Five coins are tossed 3200 times and the following result are obtained (7.5)

No of Heads : 0 1 2 3 4 5

Frequency : 80 570 110 900 500 50

If chi square for 5 d.f at 5% level of significance be 11.07, Test the Hypothesis that the coins are unbiased

(7.5)

UNIT-III

- Q.6. (a) A simple sample of height of 6400 Englishmen has a mean of 170cm, and a S.D of 6.4 cm, while a simple sample of height of 1600 Americans has a mean of 172 cm and a S.D of 6.3 cm. Do the data indicates that the American are, on the average, taller than the Englishmen.

(7.5)

- (b) A random sample of 500 apple was taken from a large consignment and 60 were found to be bad. Obtain the 98% confidence limit for the percentage number of bad apples in the consignment

(7.5)

OR

- Q.7. (a) The following mistakes per page were observed in a book

No of mistakes : 0 1 2 3 4

Frequency : 211 90 19 5 0

Fit a poisson distribution and test the goodness of fit

(7.5)

- (b) The following data represented the biological values of protein from cow milk and Buffalo milk at the certain level

Cow: 1.82 2.02 1.88 1.61 1.81 1.54

Buffalo : 2.00 1.83 1.86 2.03 2.19 1.88

Examine if the average value of protein in the two sample significantly differ

(7.5)

UNIT-IV

- Q.8. (a) Fit a straight line to the following set to observation

X: 1 2 3 4 5

Y: 2 4 6 8 10

(7.5)

- (b) Show that the coefficient of correlation lies between -1 to +1

(7.5)

OR

- Q.9. (a) Find the rank correlation coefficient for following data

X: 85 74 85 50 65 78 74 60 74 90

Y: 78 91 78 58 60 72 80 55 68 70

(7.5)

- (b) Ten competitors in a beauty contest got marks by three judges in the following order

First judge : 1 6 5 10 3 2 4 9 7 8

Second judge : 3 5 8 4 7 10 2 1 6 9

Third judge : 6 4 9 8 1 2 3 10 5 7

Use rank correlation coefficient to discuss which pair of judges have the nearest approach to common tastes in beauty.

(7.5)

B. Tech (CSE) - 6TH SEMESTER
THEORY OF AUTOMATA & FORMAL LANGUAGE- 13020605
END TERM THEORY EXAMINATION

Time: 3:00 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Answer the following Questions.

(15)

- a) Differentiate between DFA and NFA.
- b) State and prove Arden's Theorem.
- c) Is $L = \{a^{2n} / n \geq 1\}$ regular?
- d) Explain halting problem of turing machine.
- e) Prove that the class of regular languages is closed under Union Operation.

UNIT-I

Q.2. a) Construct the minimum state automata equivalent to automata whose transition table is

q0:- Initial State; q5: - Final State

(8)

State	a	b
q0	q1	q2
q1	q1	q3
q2	q3	q4
q3	q1	q5
q4	q4	q2
q5	q6	q6

b) Construct DFA equivalent to $M = (\{q0, q1, q2, q3\}, \{0, 1\}, q0, \{q3\})$ where transition function is given below:- q0:- Initial State; q3: - Final State

(7)

State	a	b
q0	q0, q1	q0
q1	q2	q1
q2	q3	q3
q3		q2

OR

Q.3. a) State and prove Equivalence of NFA and DFA

(7)

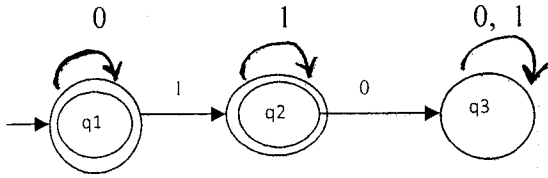
b) Construct DFA:-

(8)

- i. accepting all strings over $\{a, b\}$ ending in ab.
- ii. accepting the set of all strings over $\{0, 1\}$ in which second symbol is 0 and fourth symbol is 1.

UNIT-II

Q.4. a) Describe in English the set accepted by the finite automata whose transitions diagram is as shown:-



(8)

b) Construct the finite automata equivalent to the regular expression $(0 + 1)^*(00 + 11)(0 + 1)^*$

(7)

OR

Q.5. a) Prove $(a+b)^* = a^*(ba^*)^*$

(8)

b) Consider the mealy machine described by the transition table given below. Construct Moore machine which is equivalent to the mealy machine.

(7)

Present State	Next State			
	Input a=0		Input a = 1	
	State	Output	State	Output
→ q1	q3	0	q2	0
q2	q1	1	q4	0
q3	q2	1	q1	1
q4	q4	1	q3	0

UNIT-III

Q.6. a) Reduce the following Grammar to CNF:

(8)

$$S \rightarrow ASA \mid bA, \quad A \rightarrow B \mid S, \quad B \rightarrow c$$

b) What is Context Free Grammar? What are the various defects of CFG? Find a reduced grammar equivalent to the grammar G whose productions are:-

(7)

$$S \rightarrow AB, \quad A \rightarrow a, \quad B \rightarrow C \mid b, \quad C \rightarrow D, \quad D \rightarrow E \text{ and } E \rightarrow a.$$

OR

Q.7. a) Construct a grammar in GNF equivalent to the grammar:-

(8)

$$S \rightarrow AA \mid a, \quad A \rightarrow SS \mid b$$

b) Explain the decision properties of CFL.

(7)

UNIT-IV

Q.8. a) What do you mean by PDA? How it works? Explain ID for PDA. Also discuss some applications of PDA.

(7)

b) Construct PDA for accepting the language $L = \{ w c w^t / w \in \{a,b\}^* \}$

(8)

OR

Q.9. a) Design Turing machine that accepts :- $\{0^n 1^n / n \geq 1\}$

(7)

b) Explain the following: -

(8)

- i. Post Correspondence Problem
- ii. Primitive Recursive Function

B. Tech (ME / CE) 6th SEMESTER EXAMINATION
(Automobile Engineering: PAPER CODE: -13030606/13010620)

Time: 03:00 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each section. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Attempt all the following questions. (3X5=15)

- (a) Why clutch is needed in transmission system?
- (b) Enlist the safety features used in the Automobile.
- (c) What is the function of the layshaft in gear-box?
- (d) What is the need of suspension system in automobile?
- (e) What is the supplement to the seat belt?

Section-A

Q.2. What do you understand by the frame? Explain different types of chassis in Automobile. (15)

Q.3. What is the function of Lubrication system and explain different types of lubrication systems. (15)

Section-B

Q.4. (a) Explain the Catalytic converter with the help of neat sketch. (7)

(b) Discuss the effects of Automobile emission on human health and environment. (8)

Q.5. What is the function of the Spark plug? Differentiate between the Coil and Magneto type spark plug. (15)

Section-C

Q.6. Explain the construction and working principle of the constant mesh type gear box with the help of neat diagram. (15)

Q.7. Discuss the need of a good clutch and explain the construction and working of Diaphragm clutch. (15)

Section-D

Q.8. (a) Differentiate between the Drum and Disc brakes. (7)

(b) Explain the working of power steering with the help of neat diagram. (8)

Q.9. Define the following: (5x3 =15)

- (a) CRDI
- (b) ABS
- (c) EBD

Roll No. _____

B. Tech (CSE), 6TH SEMESTER
SOFTWARE DEVELOPMENT & TESTING METHODOLOGY - 13020606
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other **FOUR** questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Write short note on the following with examples: (5X3=15)

- a) Error and Debugging
- b) Beta Testing
- c) Installation Testing
- d) Performance Testing
- e) Coding

UNIT-I

Q.2. Define the term Testing as per IEEE? Write down the objective of testing? Write difference between (Verification and validation) and (White box and black box) testing? (15)

OR

Q.3. Discuss all the Functional and non functional testings in detail?

UNIT-II

Q.4. Write the various levels of Software Testing? Explain each level in detail? (15)

OR

Q.5. What do you understand by Test planning and test case? Discuss all the points of test plan document?

UNIT-III

Q.6. Explain Software Development Life Cycle and also draw and explain all phases of it's with suitable example? (15)

OR

Q.7. Explain all of the following:

- (a) Sanity testing and Smoke Testing
- (b) Regression Testing and Re-testing
- (c) Security testing and Direct URL testing

UNIT-IV

Q.8. What do you mean by Test case Template? Explain its types and also discuss the each column used in the test case template?

(15)

OR

Q.9. Prepare the Boundary value analysis(BVA) for the application having:

(15)

- i) Accepting Username between 8 to 12 characters only.
- ii) Accepting Email address with alpha numeric characters between 10 to 15 only

B. TECH (CSE) 6TH SEM
(SUBJECT NAME & CODE: -ADVANCE JAVA-13020608)
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1.** Write a short note on **(3X5=15)**
- a) Java operators, control statements
 - b) Multithreading and multitasking
 - c) Design of jdbc
 - d) Lifecycle of Threads
 - e) Naming patterns for beans

UNIT-I

- Q.2.** What is inheritance? Explain the type of inheritance in detail? Write a java program to show multilevel inheritance and multiple inheritance in java? **(15)**

OR

- Q.3.** What is exception handling? Write a program to handle any exception? **(15)**

UNIT II

- Q.4.** Write a program for JDBC connectivity in java? Explain Scrollable and updatable result sets in detail? **(15)**

OR

- Q.5.** What is socket programming? Explain the client side and server side programming to communicate with each other? **(15)**

UNIT-III

- Q.6.** What is AWT? Explain various awt layout managers in details? WAP for card layout manager? **(15)**

- Q.7.** WAP to create a frame in swing? And give the difference between AWT and SWINGS? **(15)**

UNIT-IV

- Q.8.** What is a BEAN? Why do we need beans? Write a difference between entity bean and session bean? **(15)**

OR

- Q.9.** What is JSP and its implicit objects? Also explain servlets and draw its lifecycle and its states in details. **(15)**

B. Tech (CSE) 6th Semester
Digital Logic Design with PLDs and VHDL - 13020623
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 75

Instructions:

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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other **FOUR** questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1.** Answer the following Questions. **(15)**
- a) What is VHDL? Write advantages of VHDL.
 - b) What is entity? Write its syntax also.
 - c) VHDL code for OR and XOR logic gates?
 - d) ROM
 - e) Differentiate between Inertial delay and Transport delay.

UNIT-I

- Q.2.** (a) What are operators? Explain different types of operators.
(b) What is multiplexer? Write the VHDL code for 8*1 multiplexer. **(15)**

OR

- Q.3.** (a) Explain all types of data type used in VHDL.
(b) Explain the Structural style and behavioral style modeling with suitable example. **(15)**

UNIT-II

- Q.4.** (a) Write VHDL code for Full Adder. **(15)**
(b) Write a short note on Package and Library.
(c) Write VHDL code for RS flip flop.

OR

- Q.5.** Write short note on the following: **(15)**
- (a) If Statement
 - (b) Case Statement
 - (c) Generic Statement

UNIT-III

- Q.6.** Design a 4-bit binary multiplier and generate the control state graph. Explain the operation with diagram **(15)**

OR

- Q.7.** (a) Explain the operation of Electronic dice game **(15)**
(b) State and explain the basic components of state machine charts. Also differentiate between Mealy and Moore State machine.

UNIT-IV

Q.8 (a) A combinational circuit is defined by the function: (15)

$$F1 (A, B, C) = \sum m (0,1,3,7)$$

$$F2 (A,B,C) = \sum m (1,2,5,6)$$

Implement the circuit with PLA

(b) State and Explain the design of Binary Divider

OR

Q.9 Write a short note on the following: (15)

- (a) PAL
- (b) PLA
- (c) Operator Overloading

*****ETE MAY 2018*****

B.TECH (CSE) – 6TH SEMESTER
WIRELESS AND MOBILE COMMUNICATION -13020611
END TERM THEORY EXAMINATION

Time: 00:30 Hrs

Max. Marks: 75

Instructions:

1. Write Roll No. on the Question Paper.
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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Answer the following Questions.

- | | |
|---|-----|
| a) What is Trunking? | (1) |
| b) What are the future trends in wireless systems ? | (2) |
| c) Which Access techniques is used in India & why ? | (2) |
| d) Define 2G Systems. | (2) |
| e) How paging systems works? | (2) |
| f) Define GOS. | (2) |
| g) Explain Cell Splitting. | (2) |
| h) Difference between TDMA & FDMA. | (2) |

UNIT-I

Q.2. Explain WLL in details. (15)

OR

Q.3. What are Satellite systems? Explain with the help of block diagram. (15)

UNIT-II

Q.4. Explain Channel Assignment in details. (15)

OR

Q.5. Explain Handoff Strategies. (15)

UNIT-III

Q.6. Explain Parameters of mobile multipath channels. (15)

OR

Q.7. Explain Propagation models in details. (15)

UNIT-IV

Q.8. Explain QAM in details. (15)

OR

Q.9. Explain TDMA and CDMA in details. (15)