BTS.VII-11.14-0780 Reg.No. | | | | | | | | |

B

B.Tech. Degree VII Semester Examination November 2014

EB/EC/CS/EE/EI/IT 701 INDUSTRIAL ORGAGNIZATION AND MANAGEMENT

(2006 Scheme)

Time : 3 Hours Maximum Marks : 100

PART A

(Answer *ALL* questions)

(8 x 5 = 40)

I. (a) Compare formal and informal organizations.

(b) Briefly explain the objectives of co-operative organizations.

(c) List out the characteristics of management.

(d) What are the contributions of Gilbbreth?

(e) Explain about market segmentation.

(f) Explain standard costing.

(g) What are the functions of materials management?

(h) Briefly explain about materials requirement planning.

PART B

(4 x 15 = 60)

II. Explain different types of organization structures. (15)

OR

III. (a) What is a joint stock company? Compare private and public limited companies. (8)

(b) Explain the merits and demerits of public sector organizations. (7)

IV. (a) Explain the levels of management. What are the skills required at different levels? (9)

(b) Explain Neo-classical management theory. (6)

OR

V. Explain the functions of management. (15)

VI. Discuss the principles of personnel management. (15)

OR

VII. (a) Differentiate between consumer and industrial markets. (6)

(b) Explain the basics of financial accounting. (9)

VIII. (a) Differentiate between production and productivity. (5)

(b) A company requires 20,000 units of raw materials costing Rs.20 per unit. The cost of placing an order is Rs.500 and the carrying costs are 10% per year per unit of the average inventory. Determine (i) economic order quantity (ii) cycle time and (iii) total variable cost of managing the inventory. (10)

OR

IX. (a) Explain the measurement of productivity. (6)

(b) Explain the objectives of storekeeping. (9)

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BTS –VII–11.14–0787 Reg. No. | | | | | | | | |

C

B. Tech. Degree VII Semester Examination November 2014

EC 702 RADIO COMMUNICATION

(2006 Scheme)

Time: 3 Hours Maximum Marks: 100

PART A

(Answer *ALL* questions)

(8 x 5 = 40)

I. (a) Define power gain and directive gain, hence obtain the relation between them.
(b) Derive Frii's transmission formula.
(c) Explain horn antenna and mention its important applications.
(d) State "principle of multiplication of patterns". Illustrate the same for an array of two short dipoles separated by a distance of $\lambda/2$ and fed with in-phase signals (short dipoles-placed horizontally).
(e) Discuss the effects of earth on groundwave propagation.
(f) Explain direct propagation.
(g) Derive RADAR range equation.
(h) What is the function of a duplexer? Explain the working of balanced duplexer.

PART B

(4 x 15 = 60)

II. (a) Explain radiation pattern of an antenna. Sketch the radiation pattern of a highly directional antenna and mark the following: (i) Major lobe (ii) Minor lobes (iii) HPBW (iv) FNBW (10)
(b) Calculate the gain of an antenna with a circular aperture of diameter 2 meters at a frequency of 3GHz. (5)

OR

III. (a) Explain the field regions of a short dipole. (5)
(b) What is meant by radiation resistance? Derive the expression for the radiation resistance of a short dipole. (10)

IV. (a) What is meant by arraying of antennas? Compare broadside and endfire arrays. (5)
(b) Derive expression for the array factor of a uniform linear array of N-isotropic point sources. (10)

OR

V. (a) Explain the principle of operation of parabolic reflector antenna with neat diagrams. What is the need of tapered illumination? (7)
(b) Explain the measurement of antenna gain by 'gain comparison' method. (8)

VI. (a) What is spacewave propagation? Derive expression for range and field strength of a tropospheric wave. (10)
(b) What is fading? Give remedies. (5)

OR

(P.T.O.)

VII.	(a)	What are the effects of earth's magnetic field on ionospheric propagation?	(6)
	(b)	Explain the terms: (i) critical frequency (ii) virtual height (iii) skip distance	(9)
VIII.	(a)	How does MTI RADAR distinguish moving targets from stationary targets, when the display used is PPI?	(6)
	(b)	A VHF RADAR at 220MHz has a maximum unambiguious range of 180nmi. What is its first blind speed?	(4)
	(c)	Explain sequential lobing with neat diagram.	(5)
		OR	
IX.	(a)	Explain synthetic aperture RADAR (SAR).	(6)
	(b)	Compare the performance of pulse radar and CW RADAR.	(4)
	(c)	Explain electronic counter measures (ECM).	(5)

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BTS –VII–11.14–0797 Reg. No. | | | | | | | | |

A

B. Tech. Degree VII Semester Examination November 2014

EC/EI 703 COMPUTER COMMUNICATION AND NETWORKS

(2006 Scheme)

Time: 3 Hours Maximum Marks: 100

PART A

(8 x 5 = 40)

I. (a) Explain the different types of transmission modes used in computer communication and compare them.
(b) Compare OSI model and TCP/IP model.
(c) Explain SMTP and RPC.
(d) Explain the digital signature technique used in computer communication.
(e) Compare the IPV4 and IPV6.
(f) Explain the TCP format and TCP connection management.
(g) Explain the CRC techniques with an example.
(h) Explain the term hub, bridges and switches.

PART B

(4 x 15 = 60)

II. (a) Explain the functions of each layer in OSI model and how data is transferred from source to destination in this model.
(b) Compare circuit switching and packet switching techniques.

OR

III. (a) Explain the interference standard of RS232 and X.21.
(b) Explain the different types of networks and topologies used in computer network.

IV. Explain in detail the functions of: (i) HTTP (ii) SNMP (iii) DNS.

OR

V. (a) Explain the basic principles of cryptography and what is meant by symmetric key and public key algorithm.
(b) What is meant by firewall? How will it be classified? Explain each type.

VI. (a) Explain the link state routing and hierarchical routing.
(b) What are the different types of addressing methods used in internet?

OR

VII. (a) Explain the distance vector routing algorithm (Bellman Ford).
(b) What is meant by congestion? Explain any one approach of congestion control.

VIII. (a) Explain the different types of frame format used in DLL.
(b) Explain the ALOHA and CSMA protocols in detail.

OR

IX. (a) Explain the HDLC protocols in detail.
(b) How are ARP and RARP used in computer networks?

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BTS.VII. 11.14. 0805 Reg. No. [ ][ ][ ][ ][ ][ ][ ][ ]

D

B.Tech. Degree VII Semester Examination November 2014

EC 704 ELECTRONIC PRODUCT DESIGN

(2006 Scheme)

Time : 3 Hours Maximum Marks : 100

PART A

(Answer *ALL* questions)

(8 × 5 = 40)

I. (a) Explain product architecture.

(b) Give the advantages of CAD.

(c) List the various dimensions of electronics product design.

(d) Explain bill of materials.

(e) Explain forced cooling.

(f) What are the various thermal considerations for selecting power semiconductors devices?

(g) Write notes on cables and connectors.

(h) What are the different sources of noises?

PART B

(4 × 15 = 60)

II. (a) What are the different steps involved in identifying customs needs? (5)

(b) Explain engineering design for real life problem solving. (10)

OR

III. (a) Explain generic product development process. (10)

(b) Explain product life cycle. (5)

IV. Explain DFx methodologies in electronic product design. (15)

OR

V. (a) Explain the needs for industrial design. Explain the various stages of industrial design process. (9)

(b) Explain aesthetic and ergonomic considerations in electronic product design. (6)

VI. (a) Explain the working of heat pipes for cooling electronic appliances with diagram. (10)

(b) What are the various modes of heat transfer in electronic products? (5)

OR

VII. (a) Explain the design guidelines for ventilations. (7)

(b) Explain the electrical analogy of heat sink mounted on an IC. (8)

VIII. (a) Write notes on EMI standards and regulations. (7)

(b) Explain the PCB design rule for digital circuits. (8)

OR

IX. (a) Explain the classification of grounding. (5)

(b) Explain how shielding reduces EMI. (10)

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BTS –VII–11.14–0824 Reg. No. | | | | | | | | |

C

B. Tech. Degree VII Semester Examination November 2014

EC 705 (C) HARDWARE MODELLING

(2006 Scheme)

Time: 3 Hours Maximum Marks: 100

PART A

(Answer *ALL* questions)

(8 x 5 = 40)

I. (a) Implement a half adder using structural modeling.
(b) List the different categories of predefined operators in VHDL.
(c) Differentiate between the functions predefined by EXIT and NEXT statements.
(d) What are identifiers? What are the different kinds of identifiers in VHDL?
(e) Explain the different methods to perform the association of signals in components instantiation.
(f) Explain how generic statements are used to pass information in to a VHDL programme.
(g) List the different classes of predefined attributes in VHDL.
(h) What is a Test bench?

PART B

(4 x 15 = 60)

II. Explain basic design units of an entity in VHDL. (15)

OR

III. Discuss the different data types in VHDL. (15)

IV. (a) Explain the different types of iteration schemes of using loop statement in VHDL. (10)
(b) Explain the function of assertion statement. (5)

OR

V. Write notes on: (3 x 5 = 15)
(i) Block statement
(ii) Multiple drivers
(iii) Delta delay

VI. (a) Describe the structural model of a decade (mod-10) counter using JK flipflop and AND gate. (10)
(b) What are configurations? Explain how configuration specification is done in a programme. (5)

OR

VII. (a) Briefly describe the two kinds of subprogram with suitable example. (10)
(b) Differentiate between functions and procedures. (5)

VIII. Explain the different attributes in VHDL. (15)

OR

IX. (a) Explain the modeling of Moore FSM with an example. (10)
(b) Write notes on: (5)
(i) Aliases
(ii) Guarded signals

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