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Roll No.

SEVENTH SEMESTER

B.E. (COE)

MID SEMESTER EXAMINATION **MARCH 2005**

COE-411 COMPUTER COMMUNICATION AND ELECTRONIC SWITCHING

Time: 1 Hour 30 Minutes

Max. Marks : 20

Note : Answer **ALL** questions.
Answer parts of a question in sequence.
Assume suitable missing data, if any.

- 1 Differentiate between the following
 - [a] PAN (Personal Area Network) and SAN (Storage Area Network)
 - [b] Dejure Standards and Defacto Standards
 - [c] Shannon Theorem and Nyquist Theorem
 - [d] FDM (Frequency Division Multiplexing) and TDM (Time Division Multiplexing)
 - [e] UTP (Unshielded Twisted Pair) and STP (Shielded Twisted Pair) (10)
- 2 What are the reasons for TCP/IP protocol suite being more popular than OSI model. What are the different types of addresses required in order to transmit a message over Internet. (3)
- 3 Explain in brief the following :
 - [a] the graph demonstrating the gain profile of EDFA
 - [b] the modal dispersion in step index single mode optical fiber (4)
- 4 Write the functions of the following layers in OSI model
 - [a] Data link layer
 - [b] Transport layer (3)

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Roll No.

EIGHTH SEMESTER

B.E. (COE)

MID SEMESTER EXAMINATION **MARCH**

2005

COE-412 SOFTWARE ENGINEERING

Time: 1 Hour 30 Minutes

Max. Marks : 20

Note : Attempt **ALL** questions.
Assume suitable missing data, if any.

1. A data center, involved in the design of software products, has two type of employees: Technical and Administrative. Technical staffs are again of three types: Data-entry-operator, Programmer and System Analyst. A data-entry-operator is judged by his speed-of-entry in key depressions per second. A programmer has an assigned language in which he normally writes his programs (like C, COBOL, etc.). A system analyst has a field of specialization (like, API-designer, System software specialist, Database consultant etc.). In general, an employee is identified by his employee-no. Besides this, for each employee, the company maintains the following information,
(name, address, date-of-birth, date-of-joining and montly-salary)
The company also maintains information on the number of projects where each technical staff is involved. If technical staffs is not involved in any project, this field should contain zero. Each project is identified by a unique Project-no. Each project also has a unique name. The other information maintained for each project are,
(project-name, budget, starting-date, expected-date-of-completion, organization-name, organization-address).
The organization-name and address identify the organization that has given the project to the company. Each technical staff may be associated with one or more projects or with no project

at all. One of the technical staff may not be the project-leader of any project. Draw an ER-diagram. 6

2. What are the framework of activities associated with Spiral Model and V Model? Identify their strength and weakness. 5

3. What are the guidelines to draw DFD? What constraints must be observed while creating leveled DFD? 5

4 Write short notes on any *TWO*..

[a] Gantt chart and Pert chart

[b] The COCOMO Model

[c] Data Dictionary 4

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EIGHTH SEMESTER

B.E. (COE/EC)

MID SEMESTER EXAMINATION **MARCH** 2005

COE/EC-413 FAULT TOLERANT COMPUTING

Time: 1 Hour 30 Minutes

Max. Marks : 20

Note : Attempt any **TWO** questions.
Assume suitable missing data, if any.

- 1[a] What do you mean by 'Boolean Difference' for a switching function. Cite all the useful properties of Boolean Difference. (6)
- [b] A switching function is as follows:
$$F = x_1x_2 + x_3x_4 + \overline{x_2x_4}$$
and suppose $h = x_1x_2$. With Boolean Difference method find tests for the line h s-a-O in the circuit. (4)
2. Illustrate the principle of one dimensional path sensitization technique with a suitable diagram of a combinational circuit. State briefly how does the necessity of sensitizing more than one path in deriving tests for certain faults are being taken into account in D-Algorithm. (10)
3. Write short notes on any **TWO** of the following:
- [a] Bridging faults in digital circuits
- [b] Structure and parity observing output function (SPOOF) method.
- [c] Stuck-open faults in MOS integrated circuits. (5+5)