HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS 4th / CSE **SESSION** **JAN. - JUNE 2018**

SUBJECT: INFORMATION SYSTEMS ANALYSIS & DESIGN **SUBJECT CODE** : CSE208B

SESSIONAL MARKS: 25 **THEORY MARKS:** 75 **DURATION OF EXAMS:** 3 HOURS

NAME OF TEACHER : NITIN JAIN **DEPARTMENT** : CSE/IT

OBJECTIVES OF CONCERNED SUBJECT:

The overall goal of Information System Analysis and Design is to study procedural components and modules. This course introduces established and evolving methodologies for the analysis, design, and development of an information system.

OUTCOME OF CONCERNED SUBJECT:

Upon successful completion of this course, the student will be able to:

a. Define and describe the phases of the system development life cycle.

b. State the benefits from systems projects.

c. Explain the ways in which information systems support business requirements.

d. Describe how systems analysts interact with users, management, and other information systems professionals.

e. Develop data flow diagrams and decision tables etc.

f. Perform a feasibility study.

g. Determine methods for evaluating the effectiveness and efficiency of a system.

h. Work as an effective team member on assigned projects.

Lecture No.	Lecture Dates	TOPICS	TEXT/ REFERENCE BOOKS
1	8/01/2018	**Unit No:1 Introduction to System Development:** Data, Information, Knowledge, System	B
2	9/01/2018	Characteristics of System, Characteristics of Information	B

3	11/01/2018	Information System, Characteristics of Information System	B
4	12/01/2018	Classification of Systems	B
5	15/01/2018	Why there is need of an efficient Information System?	B
6	16/01/2018	Categories of Information Systems – Overview & Brief Explanation	B
7	18/01/2018	Structured Analysis method	B
8	19/01/2018	System Prototype method	B
9	23/01/2018	succeeding as System Analyst	B
10	25/01/2018	**Analysis:** Feasibility study, Feasibility Considerations	B
11	29/01/2018	Steps in Feasibility Analysis	B
12	30/01/2018	Cost and Benefit Analysis	B
13	1/02/2018	Procedure for Cost and Benefit Determination	B
14-15	2/02/2018, 5/02/2018	**Revision of Unit-1**	
16	6/02/2018	**Unit No:2 Requirement Analysis:** Problem Definition	A, B
17	7/02/2018	Identification and Investigation of System	A, B
18	8/02/2018	Fact Finding Techniques	A, B
19-22	9/02/2018, 12/02/2018, 13/02/2018, 15/02/2018	Tools for Documenting Procedures and Decisions: Data Flow Diagrams, Data Dictionaries, Decision Tables, Decision Trees	A, B
23	16/02/2018	**Revision of Unit-2**	
24	19/02/2018	**Unit No:3 Design:** System Design Considerations	A, B,C
25	20/02/2018	Process and Stages of System Design	A, B,C
26	21/02/2018	Logical & Physical Design	A, B,C
27	22/02/2018	Selection of best alternate Design Strategy	A, B,C

28	23/02/2018	**Revision for Minor - I**	
29	26/02/2018	**Design of Input:** Capturing Data for Input, Input Validation	A
30-31	27/02/2018, 28/02/2018	**Design of Output:** Output Objectives	A
32	12/03/2018	Types of Output, Presentation Format of Output	A
33	13/03/2018	**Design of software:** Top Down Structure, Bottom Up Structure	A, C
34	14/03/2018	Coupling and Cohesion, Span of Control	A, C
35	15/03/2018	Module size, Shared Modules	A, C
36-37	16/03/2018, 19/03/2018	Training, Conversion Methods	A, C
38	20/03/2018	**Revision of Unit-3**	
39	21/03/2018	**Unit No:4 Object Oriented Design and Modeling:** Introduction to Object-Oriented Design	C
40	22/03/2018	Designing Object Responsibilities and Object Reusability	C
41	23/03/2018	**Case Study of Information Systems:** Hotel Reception System	A
42	26/03/2018	Inventory Control System	A
43	27/03/2018	Hospital Management System	A
44	30/03/2018	Laboratory Management System	A
45	02/04/2018	Seminar on State-of the-Art Technology	A
46	03/04/2018	**Revision of Unit-4**	
Remaining Lectures		**Revision of Full Syllabus & Semester Examination Question Papers**	

TEXT/REFERENCE BOOKS:

A. Whitten, J. and Bentley, L., Introduction to Systems Analysis and Design, Tata McGraw Hill (2006).

B. Systems Analysis and Design, Elias M. Awad, Galgotia Publications Pvt. Ltd., 2nd Edition.

C. "Software Engineering A practitioners Approach": Roger S. Pressman, TMH.

Home Assignments: 4 –5 assignments are given during the semester.

Evaluation Procedure

1.	Surprise Quiz/ Tutorial Test	5 Marks
2.	Assignment / Project / Performance in the Class	5 Marks
3.	Minor Tests (Two tests having equal weightage) Minor Test I : 06 – 09 March, 2018 Minor Test II : 17 -20 April, 2018	15 Marks
4.	Major test (University Examination)	75 Marks

Attendance Record – Candidate should attend at least 75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.

The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.

HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS CSE 4TH **SESSION** JAN. - JUNE 2018

SUBJECT: ENVIRONMENTAL STUDIES **SUBJECT CODE** : GES201B

SESSIONAL MARKS: 25 **THEORY MARKS: 75** **DURATION OF EXAMS:** **3 HOURS**

NAME OF TEACHER : DR. MANJU RANI **DEPARTMENT** : APPLIED SCIENCE

OBJECTIVES OF CONCERNED SUBJECT:
To Make Students Familiar with environment.

OUTCOME OF CONCERNED SUBJECT:
Subject Helps Students to have awareness about environment.

Lecture No.	Lecture Dates	TOPICS	TEXT/REFERENCE BOOKS
1	15.01.2018	**UNIT – I** The Multidisciplinary nature of environmental studies, Definition, scope and importance. Need for Public awareness.	A
2	17.01.2018	**Natural Resources:** Renewable and non-renewable resources: Natural resources and associated problems. a) Forest resources: Use and over-exploitation: deforestation, case studies, Timber exploitation, mining, dams and their effects and forests tribal people.	A
3	19.01.2018	b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.	A
4	22.01.2018	d) Food resources: World food problems, changes, caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources; case studies.	A
5	24.01.2018	f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. • Role of an individual in conservation of natural resources. • Equitable use of resources for sustainable lifestyles.	A
6	31.01.2018	**Ecosystems:** • Concept of an ecosystem.	A

		• Structure and function of an ecosystem.	
7	02.02.2018	• Producers, consumers and decomposers. • Energy flow in the ecosystem.	A
8	05.02.2018	• Ecological succession. • Food chains, food webs and ecological pyramids.	A
9	07.02.2018	Introduction, types, characteristic features, structure and function of the following eco-system: a) Forest ecosystem. b) Grassland ecosystem. c) Desert ecosystem.	A
10	09.02.2018	d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).	A
11	12.02.2018	**Biodiversity and its conservations:** • Introduction – Definition: Genetic, species and ecosystem diversity.	A
12	14.02.2018	• Biogeographically classification of India. • Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.	A
13	16.02.2018	• Biodiversity at global, National and local levels. • India as a mega-diversity nation. • Hot-spots of biodiversity.	A
14	21.02.2018	• Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. • Endangered and endemic species of India.	A
15	26.02.2018	**Environmental Pollution:** Definition, causes, effects and control, measures of: a) Air pollution b) Water pollution	A
16	02.03.2018	c) Soil pollution d) Marine pollution e) Noise pollution	A
17	05.03.2018	f) Thermal Pollution g) Nuclear hazards • Solid waste management: Causes effects and control measures of urban and industrial wastes.	A
18	12.03.2018	• Role of an individual in prevention of pollution. • Pollution case studies.	A
19	14.03.2018	• Disaster management: Floods, earthquake, cyclone and landslides.	A
20	16.03.2018	**Social issues and the Environment:** a) From unsustainable to sustainable development b) Urban problems related to energy	A
21	19.03.2018	c) Water conservation, rain water harvesting, watershed management d) Resettlement and rehabilitation of people; its problems and concerns, case studies	A
22	21.03.2018	e) Environmental ethics: Issues and possible solutions f) Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Case studies	A

23	26.03.2018	g) Wasteland reclamation h) Consumerism and waste products	A
24	28.03.2018	i) Environment Protection Act j) Air (Prevention and Control of Pollution) Act	A
25	30.03.2018	k) Water (Prevention and Control of Pollution) Act l) Wildlife Protection Act	A
26	02.04.2018	m) Forest Conservation Act n) Issues involved in enforcement of environmental legislation o) Public awareness	A
27	04.04.2018	**Human population and the Environment.** Population growth, variation among nations.	A
28	06.04.2018	Population explosion – Family Welfare Programme.	A
29	09.04.2018	Environment and human health Human Rights. Value Education.	A
30	11.04.2018	HIV/ AIDS. Woman and Child Welfare.	A
31	13.04.2018	Role of Information Technology in Environment and human health.	A
32	23.04.2018	Case Studies.	A

TEXT/REFERENCE BOOKS:

A. Environmental Studies, Kaushik & Kaushik

Evaluation Procedure

1.	**Surprise Quiz/ Tutorial Test**	**5 Marks**
2.	**Assignment / Project / Performance in the Class**	**5 Marks**
3.	**Minor Tests (Two tests having equal weightage)** **Minor Test I : 06 – 09 March, 2018** **Minor Test II : 17 -20 April, 2018**	**15 Marks**
4.	**Major test (University Examination)**	**75 Marks**

Attendance Record – Candidate should attend at least75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. **In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.**
2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**

HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS CSE 4th **SESSION** **JAN. - JUNE 2018**

SUBJECT: DATABASE MANAGEMNT SYSTEM **SUBJECT CODE** : CSE 202B

SESSIONAL MARKS: 25 **THEORY MARKS: 75** **DURATION OF EXAMS: 3 HOURS**

NAME OF TEACHER : Ms. SUMAN **DEPARTMENT** : CSE/IT

OBJECTIVES OF CONCERNED SUBJECT:

- Learn and practice data modeling using the entity-relationship and developing database designs
- Understand the use of Structured Query Language (SQL) and learn SQL syntax.
- Apply normalization techniques to normalize the database
- Understand the needs of database processing and learn techniques for controlling the consequences of concurrent data access.

OUTCOME OF CONCERNED SUBJECT:

- To describe data models and schemas in DBMS
- To understand the features of database management systems and Relational database.
- To use SQL- the standard language of relational databases.
- To understand the functional dependencies and design of the database.
- To understand the concept of Transaction and Query processing.

Lecture No.	Lecture Dates	TOPICS	TEXT/REFERENCE BOOKS
1-3	8-01-2018 9-01-2018 10-01-2018	Data Independence, Data Models, Instances and schemes, Data independence Structures of a DBMS, Levels of abstraction	A
4-5	11-01-2018 15-01-2018	Application Programmers & Data Base administrators – their function, Transaction Management	A
6	16-01-2018	Network, Hierarchical and Relational Model,	A,B
7-8	17-01-2018 18-01-2018	Entity Relationship Model: Entities, Attributes Entity Sets, Relation, Relationships sets,	A
9	23-01-2018	mapping and participation constraints	A
10	24-01-2018	Aggregation, Specialization and Generalization,	A

11	25-01-2018	Features of ER Model.	A
12-13	29-01-2018 30-01-2018	Relational Model: Introduction to relational model,	A, B
14	31-01-2018	Integrity constraints over relations	A, B
15	01-02-2018	Enforcing Data Integrity	A,B
16	05-02-2018	Integrity Constraints,	A,B
17-18	06-02-2018 07-02-2018	Relational Data Logical Data Base Design	A
19-20	08-02-2018 12-02-2018	Reduction of E-R Diagrams to relations	A
21	13-02-2018	Introduction to views, Querying	B
22	15-02-2018	Relational Algebra	C
23	19-02-2018	Relational Calculus	C
24-26	20-02-2018 21-02-2018 26-02-2018	Operations on Relational Algebra	C
27	27-02-2018	Operations on Relational Calculus,	C
28-29	28-02-2018 01-03-2018	Tuple Relational Calculus, Domain Relational Calculus	C
30	05-03-2018	Database Design, Data Redundancy,	A
31	12-03-2018	Introduction to Schema Refinement,	A
32-33	13-03-2018 14-03-2018	Functional Dependencies	B
34	15-03-2018	Normal Forms-First ,	B
35	19-03-2018	Second Normal Forms	B
36	20-03-2018	Third Normal Forms	B
37-38	21-03-2018 26-03-2018	Boyce code, Fourth and Multivalued Dependencies	B
39	27-03-2018	Structured Query Language: Basic SQL Queries,	A
40-41	28-03-2018 02-04-2018	Nested Queries, Aggregate operator, Null Values, implementation of Various Relational Algebra operations	A
42	03-04-2018	Embedded SQL	B

43-44	04-04-2018 05-04-2018	Transaction management: ACID Properties, Transaction states	A
45	09-04-2018	Concurrency Control –Overview	A
46-47	10-04-2018 11-04-2018	Concurrency control problems	A
48-49	12-04-2018 16-04-2018	Locks, Locking Protocols	A
50-51	23-04-2018 24-04-2018	Deadlocks, Serializability	A
52-53	25-04-2018 26-04-2018	Recovery System: Types of Failures, Recovery Techniques, ARIES	A

TEXT/REFERENCE BOOKS:

- **A.** Korth, Silberschatz, Database System Concepts, 4th Ed., TMH, 2000.
- **B.** Elmasri Navathe, Fundamentals of Database Systems, 5th Edition Pearson Education
- **C.** Vipin.C.Desai , An introduction to Database System , West Pub. Co

Home Assignments: 4 –5 assignments are given during the semester.

Evaluation Procedure

1.	**Surprise Quiz/ Tutorial Test**	**5 Marks**
2.	**Assignment / Project / Performance in the Class**	**5 Marks**
3.	**Minor Tests (Two tests having equal weightage)** **Minor Test I : 06 – 09 March, 2018** **Minor Test II : 17 -20 April, 2018**	**15 Marks**
4.	**Major test (University Examination)**	**75 Marks**

Attendance Record – Candidate should attend at least75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. **In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.**
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HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS 4th /CSE **SESSION** **JAN. - JUNE 2018**

SUBJECT: Object Oriented Programming **SUBJECT CODE** : CSE-204 B

SESSIONAL MARKS: 25 **THEORY MARKS: 75** **DURATION OF EXAMS: 3 HOURS**

NAME OF TEACHER : Sonia Juneja Department : CSE/IT Deptt..

OBJECTIVES OF CONCERNED SUBJECT:

To develop the programming skills in relation to object oriented programming techniques

OUTCOME OF CONCERNED SUBJECT: The students have learned the concepts of OOPs

Lecture No.	Lecture Dates	TOPICS	TEXT/REFERENCE BOOKS
1	08.01.2018	C++ Standard Library, Preprocessor Directives	Object oriented programming in Turbo C++ by Robert Lafore
2	10.01.2018	Header Files and Namespaces, library files	Object oriented programming in Turbo C++ by Robert Lafore
3	11.01.2018	Illustrative Simple C++ Programs	Object oriented programming with C++ by E Balaguruswamy
4	12.01.2018	Concept of objects, Object Oriented Analysis & Object Modeling techniques	Object oriented programming in Turbo C++ by Robert Lafore
5	15.01.2018	Introduction to Objects and Object Oriented Programming, Encapsulation (Information Hiding), Access Modifiers: Controlling access to a class, method, or variable (public, protected, private, package), Other Modifiers	Object oriented programming in Turbo C++ by Robert Lafore
6	17.01.2018	Polymorphism: Overloading, Inheritance, Overriding, Abstract Classes, Reusability	Object oriented programming in Turbo C++ by Robert Lafore
7	18.01.2018	Introduction, Structure Definitions, Accessing Members of Structures	Object oriented programming in Turbo C++ by Robert Lafore
8	19.01.2018	Class Scope and Accessing Class Members, Controlling Access Function And Utility Functions	Object oriented programming in Turbo C++ by Robert Lafore
9	24.01.2018	Initializing Class Objects: Constructors	Object oriented programming with C++ by E Balaguruswamy

10	25.01.2018	Const(Constant) Object And Const Member Functions	Object oriented programming in Turbo C++ by Robert Lafore
11	29.01.2018	Object as Member of Classes	Object oriented programming in Turbo C++ by Robert Lafore
12	31.01.2018	Friend Function	Object oriented programming in Turbo C++ by Robert Lafore
13	1.02.2018	Friend Classes	Object oriented programming in Turbo C++ by Robert Lafore
14	2.02.2018	Using This Pointer	Object oriented programming in Turbo C++ by Robert Lafore
15	5.02.2018	Dynamic Memory Allocation with New and Delete	Object oriented programming in Turbo C++ by Robert Lafore
16	7.02.2018	Static Class Members	Object oriented programming in Turbo C++ by Robert Lafore
17	8.02.2018	Container Classes and Iterators	Object oriented programming in Turbo C++ by Robert Lafore
18	9.02.2018	Function overloading	Object oriented programming in Turbo C++ by Robert Lafore
19	12.02.2018	Introduction, Fundamentals of Operator Overloading	Object oriented programming in Turbo C++ by Robert Lafore
20	15.02.2018	Restrictions On Operators Overloading	Object oriented programming in Turbo C++ by Robert Lafore
21	16.02.2018	Operator Functions as Class Members	Object oriented programming in Turbo C++ by Robert Lafore
22	19.02.2018	Operator Functions as Friend Functions	Object oriented programming in Turbo C++ by Robert Lafore
23	21.02.2018	Overloading of unary operators	Object oriented programming in Turbo C++ by Robert Lafore
24	26.02.2018	Introduction, Inheritance: Base Classes And Derived Classes Protected Members	Object oriented programming in Turbo C++ by Robert Lafore
25	28.02.2018	Casting Base Class Pointers to Derived-Class Pointers	Object oriented programming in Turbo C++ by Robert Lafore
26	1.03.2018	Using Member Functions, Overriding Base -Class Members in a Derived Class	Object oriented programming in Turbo C++ by Robert Lafore
27	2.03.2018	Public, Protected and Private Inheritance	Object oriented programming in Turbo C++ by Robert Lafore
28	5.03.2018	Revision class for minor –I	Object oriented programming in Turbo C++ by Robert Lafore

29	12.03.2018	Using Constructors and Destructors in derived Classes,	Object oriented programming in Turbo C++ by Robert Lafore
30	14.03.2018	Implicit Derived -Class Object To Base- Class Object Conversion,	Object oriented programming in Turbo C++ by Robert Lafore
31	15.03.2018	Composition Vs. Inheritance	Object oriented programming in Turbo C++ by Robert Lafore
32	16.03.2018	Introduction to Virtual Functions	Object oriented programming in Turbo C++ by Robert Lafore
33	19.03.2018	Abstract ,Base Classes And Concrete Classes	Object oriented programming in Turbo C++ by Robert Lafore
34	26.03.2018	Polymorphism	Object oriented programming in Turbo C++ by Robert Lafore
35	28.03.2018	New Classes And Dynamic Binding	Object oriented programming in Turbo C++ by Robert Lafore
36	29.03.2018	Virtual Destructors, Polymorphism, Dynamic Binding	Object oriented programming in Turbo C++ by Robert Lafore
37	30.03.2018	Files and I/O Streams and various operation on files.	Object oriented programming with C++ by B.L Juneja & Anita Seth
38	2.04.2018	Stream Input/Output Classes and Objects, Stream Output, Stream Input	Object oriented programming with C++ by B.L Juneja & Anita Seth
39	4.04.2018	Unformatted I/O(with read and write)	Object oriented programming with C++ by B.L Juneja & Anita Seth
40	5.04.2018	Stream Manipulators, Stream Forma t States, Stream Error States	Object oriented programming with C++ by B.L Juneja & Anita Seth
41	6.04.2018	Function Templates, Overloading Template Functions	Object oriented programming with C++ by B.L Juneja & Anita Seth
42	9.04.2018	Class Template, Class Templates and Non-Type Parameters, Templates and Inheritance,	Object oriented programming with C++ by B.L Juneja & Anita Seth
43	11.04.2018	Templates and Friends, Templates & Static Members	Object oriented programming with C++ by B.L Juneja & Anita Seth
44	12.04.2018	Introduction, Basics of C++ Exception Handling: Try Throw, Catch, Throwing and Exception, Re-throwing an Exception	Object oriented programming with C++ by B.L Juneja & Anita Seth
45	13.04.2018	Exception specifications, Processing Unexpected Exceptions, Constructors, Destructors and Exception Handling, Exceptions and Inheritance	Object oriented programming with C++ by B.L Juneja & Anita Seth

TEXT/REFERENCE BOOKS:

1. Object oriented programming in Turbo C++ by Robert Lafore
2. Object oriented programming with C++ by E Balaguruswamy
3. Object oriented programming with C++ by B.L Juneja & Anita Seth

Home Assignments: 4 –5 assignments are given during the semester.

Evaluation Procedure

1.	**Surprise Quiz/ Tutorial Test**	**5 Marks**
2.	**Assignment / Project / Performance in the Class**	**5 Marks**
3.	**Minor Tests (Two tests having equal weightage)** **Minor Test I : 06 – 09 March, 2018** **Minor Test II : 17 -20 April, 2018**	**15 Marks**
4.	**Major test (University Examination)**	**75 Marks**

Attendance Record – Candidate should attend at least75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. **In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.**
2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**

HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS CSE-4th **SESSION** **JAN. - JUNE 2018**

SUBJECT: SYSTEM PROGRAMMING **SUBJECT CODE** : CSE-206B

SESSIONAL MARKS: 25 **THEORY MARKS: 75** **DURATION OF EXAMS: 3 HOURS**

NAME OF TEACHER : VANDNA **DEPARTMENT** : CSE/IT

OBJECTIVES OF CONCERNED SUBJECT: Students will be acquainted with the knowledge of various system components like assembler,loader ,linker,compiler in detail and deal with case-study of various editors on different platforms

OUTCOME OF CONCERNED SUBJECT: Students will be familiar with NASM Assembler and will be able to code in assembly language using various constructs.

Lecture No.	Lecture Dates	TOPICS	TEXT/REFERENCE BOOKS
1	08-01-2018	Evolution of Components Systems Programming	A
2	09-01-2018	Assembler	A
3	10-01-2018	Loaders and Linkers, Macros	A
4	11-01-2018	Compiler, Software Tools	A
5	15-01-2018	Text Editors	A
6	16-01-2018	Interpreters and program generators, Debug Monitors, Programming environment	A
7-9	22-01-2018 – 24 -01-2018	Description of single pass and two pass assemblers	B
10	25-01-2018	Use of Data Structure OPTAB	B
11-13	29-01-2018 - 31-01-2018	SYMTAB, Phases of Compiler	B

14	01-02-2018	Phases of Compiler: lexical, syntax and semantic analysis	A
15-16	05-02-2018 – 6-02-2018	intermediate code generation, code optimization techniques	A
17-18	07-02-2018 – 08-02-2018	code generation, Case study : LEX and YACC	A
19-20	12-02-2018 – 13-02-2018	Macro language and macro-processor	B
21	15-02-2018	Macro Instructions	B
22-24	19-02-2018 – 21-02-2018	features of macro facility, macro instruction arguments	B
25	26-02-2018	conditional macro expansion	B
26	27-02-2018	macro calls with macro instruction defining macros	B
27	05-03-2018	Concept of linking	A
28	12-03-2018	different linking schemes	A
29	13-03-2018	concept of loading	A
30	15-03-2018, 19-03-2018 & 20-03-2018	various loading schemes	A
31	21-03-2018	Line Editor	A
32	26-03-2018	Full screen editor	A
33-34	27-03-2018 - 28-03-2018	Multi window editor and case studies of DOS editor	A
35	02-04-2018	Case studies of MS word and vi editor	A
36	03-04-2018	Revision	
37-38	04-04-2018 - 05-04-2018	Revision	
39-40	09-04-2018 & 10-04-2018	Description of various debugging techniques	B
41	16-04-2018	Revision and Discussion of Important Questions	
42	27-04-2018	Previous Papers Discussion	

TEXT/REFERENCE BOOKS:

A. **Dhamdhere, D.M., Introduction to Systems Software, Tata Mc-Graw Hill, 1996.**

B. **Donovan J.J., Systems Programming, New York, Mc-Graw Hill, 1972.**

Home Assignments: 4 –5 assignments are given during the semester.

Evaluation Procedure

1.	**Surprise Quiz/ Tutorial Test**	**5 Marks**
2.	**Assignment / Project / Performance in the Class**	**5 Marks**
3.	**Minor Tests (Two tests having equal weightage)** **Minor Test I : 06 – 09 March, 2018** **Minor Test II : 17 -20 April, 2018**	**15 Marks**
4.	**Major test (University Examination)**	**75 Marks**

Attendance Record – Candidate should attend at least75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. **In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.**
2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**

HINDU COLLEGE OF ENGINEERING, SONEPAT

LECTURE PLAN

SEMESTER/CLASS CSE 4th **SESSION** **JAN. - JUNE 2018**

SUBJECT: COA **SUBJECT CODE** : CSE-210 B

SESSIONAL MARKS: 25 **THEORY MARKS: 75** **DURATION OF EXAMS: 3 HOURS**

NAME OF TEACHER : Ms. Preeti **DEPARTMENT** : CSE/IT

OBJECTIVES OF CONCERNED SUBJECT:

1. To conceptualize the basics of organizational and architectural issues of a digital computer.
2. To understand the way hardware components operate and the way they are connected together to form computer system.
3. To analyze performance issues in processor and memory design of a digital computer.
4. To understand various data transfer techniques in digital computer.
5. To understand the performance enhancement methods in instruction execution.

OUTCOME OF CONCERNED SUBJECT:

1. Ability to identify the basic components and design of a computer, including CPU, memories, and input/output units.
2. Ability to identify the issues involved in the instruction execution and various stages of instruction life stage.
3. Ability to identify the issues related to performance improvement.
4. Ability to distinguish performance trade off between different memory units and instruction sets.

Lecture No.	Lecture Dates	TOPICS	TEXT/REFERENCE BOOKS
1-2	8-1-18 9-1-18	**General System Architecture:** Classification of computers (Based on Computation methodology (Analog, digital, Hybrid), based on generations, based on size & capability, based on Flynn's criteria)	A,C
3-4	10-1-18 11-1-18	Multilevel viewpoint of a machine: digital logic, micro architecture, ISA, operating systems, high level language	C
5-6	15-1-18 16-1-18	Bus width, Bus clocking (synchronous, asynchronous), bus arbitration, Bus examples (ISA bus, PCI bus, Universal serial bus)	Notes
7-9	17-1-18 18-1-18 23-1-13	Register Transfer language; Computer Buses (basic design using multiplexers)	B

10-13	24-1-18 25-1-18 29-1-18 30-1-18	Computer Arithmetic, Addition, subtraction (signed magnitude, signed 2's complement), Multiplication (Booth's algorithm)	B
14-15	31-1-18 1-2-18	**CPU Organization:** CPU Architecture types (accumulator, register, stack, memory/ register)	B
16-17	5-2-18 6-2-18	Addressing modes (register, immediate, direct, indirect, indexed)	B
18-21	7-2-18 8-2-18 12-2-18 13-2-18	Operations in the instruction set; Arithmetic and Logical, Data Transfer, Control Flow; Instruction set formats (fixed, variable, hybrid) Instruction set based classification of processors (RISC, CISC, and their comparison);	B
22-23	15-2-18 19-2-18	Instruction cycle (Fetch-Decode-Execute)	B
24-26	20-2-18 21-2-18 22-2-18	**Input /Output & Control Unit:** Input Output Interface , Asynchronous data transfer (Strobe control, handshaking , serial transfer)	B
27-29	26-2-18 27-2-18 28-2-18	Serial Vs parallel data transmission; Modes of data transfer (Programmed I/O, Interrupt driven, Direct Memory access (DMA))	B
30-31	1-3-18 5-3-18	Revision for Minor Test 1	
32-34	12-3-18 13-3-18 14-3-18	Control Unit design:- Control unit design methods (hardwired & microprogrammed) Control Memory,	B
35-36	15-3-18 19-3-18	Address Sequencing, Micro instructions.	B
37-39	20-3-18 21-3-18 22-3-18	**Memory Organization:** Memory device characteristics(access/ cycle time, cost per bit, volatility, storage density) Memory hierarchy ; Static & dynamic memory types, their comparison	B, Notes
40-41	26-3-18	Main memory Design (Semiconductor RAM & ROM organization, memory expansion)	B

	27-3-18		
42	28-3-18	Associative memory Design ,Match logic	
43-45	2-4-18 3-4-18 4-4-18	Locality of reference principle(Temporal & Spatial),Cache mapping(Direct , associative , set associative); Cache writing policies (Copy-Back, Write-through)	Notes, B
46-47	5-4-18 9-4-18	Virtual Memory(Address space , memory space , Address mapping using pages , Page replacement)	B
48-50	10-4-18 11-4-18 onwards	Revision for Minor Test 2. Previous Years Question Paper Discussion	

TEXT/REFERENCE BOOKS:

A. **Computer Fundamentals and Programming in C by Sushil Goyal.**

B. **Computer System Architecture by M. Mano, Prentice-Hall.**

C. **Structured Computer Organisation by A.S. Tanenbaum, 6th edition, Prentice-Hall of India, Eastern Economic Edition**

Home Assignments: 4 –5 assignments are given during the semester.

Evaluation Procedure

1.	**Surprise Quiz/ Tutorial Test**	**5 Marks**
2.	**Assignment / Project / Performance in the Class**	**5 Marks**
3.	**Minor Tests (Two tests having equal weightage)** **Minor Test I : 06 – 09 March, 2018** **Minor Test II : 17 -20 April, 2018**	**15 Marks**
4.	**Major test (University Examination)**	**75 Marks**

Attendance Record – Candidate should attend at least 75% attendance of the total classes held of the subject

Chamber consultation hour: Any vacant period.

Note:

1. **In the semester examination, the examiner will set 08 questions in all selecting two from each unit (1 & 2 from unit I, 3 & 4 from unit II, 5 &6 from unit III and 7 & 8 from unit IV). The students will be required to attempt only 5 questions selecting at least one question from each unit. All questions will carry equal marks.**
2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**