Department of Computer Science and Engineering
Khulna University of Engineering & Technology
Khulna - 9203, Bangladesh

**Course Plan/Profile**

1. **Course No.: CSE 3201**                    **Contact Hours:3/week**

2. **Course Title: Operating Systems**

3. **Course Teacher: Prof. Dr. Kazi Md. Rokibul Alam, Abdul Aziz**

4. **Learning Outcome:**

   Students completing the course should know:
   - The basic concepts and techniques of Operating System.
   - All or parts of a simple operating system that performs interrupt processing (real or simulated), CPU management (scheduling), and memory management.
   - Various problems related to concurrent operations and their solutions.
   - Comparison between several different approaches to memory management, file management and processor management, virtual address translation and distinguish it from the use of cache, various file system organizations and their interaction with the rest of the operating system, different techniques for process synchronization on single and on distributed systems and the interaction between an operating system and a computer system's devices.
   - Various threats to system security and compare protection mechanisms which may be used against the threats.

5. **Schedule:**

| Class | Topics to be Discussed |
|-------|------------------------|
| 1 | **Introduction**: Fundamental concepts |
| 2 | The role of an operating system in computer systems |
| 3 | Operating system structure and operation |
| 4 | Operating system structure and operation |
| 5 | Operating system structure and operation |
| 6 | **Process Management**: Process concept |
| 7 | Process scheduling, Process state |
| 8 | Process management, Co-operating processes |
| 9 | Inter-process communication (IPC), Kernel |
| 10 | **Threads:** Basics concept |
| 11 | Multithreading models |
| 12 | Threading issues |
| 13 | **CPU Scheduling:** Basic concepts |
| 14 | Scheduling criteria |
| 15 | Scheduling algorithm |

| | |
|---|---|
| 16 | Algorithm evaluation. |
| 17 | **Process Synchronization:** Critical-section problem |
| 18 | Synchronization hardware, Semaphores |
| 19 | Classic problems of synchronization. |
| 20 | **Deadlocks:** System model, Deadlock characterization |
| 21 | Methods for handling deadlocks, Deadlock prevention |
| 22 | Deadlock avoidance, Deadlock Detection, Recovery from deadlock. |
| 23 | **Storage Management:** Basic concepts, Swapping |
| 24 | Contiguous memory allocation, Paging, Segmentation |
| 25 | Segmentation with paging |
| 26 | **Virtual Memory:** Basic concepts |
| 27 | Demand paging |
| 28 | Page replacement, Thrashing |
| 29 | **File Concept:** File support, Access methods |
| 30 | Allocation methods, Directory systems |
| 31 | File protection, Free space management |
| 32 | **Distributed Systems:** Types of distributed operating system, Communication protocols |
| 33 | Distributed File Systems: Naming and transparency |
| 34 | Remote file access |
| 35 | **Protection and Security:** Goals of protection, Domain of protection |
| 36 | Access matrix, Implementation of access matrix |
| 37 | The security problem |
| 38 | User authentication, Security system and facilities |
| 39 | **Case Studies**: Study of a representative operating system |

1. **Date of class tests:** 25.09.18, 23.10.18, 13.11.18 **(Tentative)**

# Department of Computer Science and Engineering
Khulna University of Engineering & Technology
Khulna - 9203, Bangladesh

## Course Plan/Profile

1. **Course No.: CSE 3202**                                      **Contact Hours: 3/week**

2. **Course Title: Operating Systems Laboratory**

3. **Course Teacher: Abdul Aziz, Nazia Jahan Khan Chowdhury**

4. **Learning Outcome:**

   Students completing the course should:

   **i.**    Describe the general structure and purpose of an operating system;
   **ii.**   Learn various Unix commands
   **iii.**  Learn shell programming and solve problems using it.
   **iv.**   Know about kernel modules and character driver.
   **v.**    Explain the concepts of process, address space, and file.
   **vi.**   Compare and contrast various CPU scheduling algorithms.
   **vii.**  Understand the differences between segmented and paged memories, and be able to describe the advantages and disadvantages of each.

5. **Schedule:**

| Lecture | Topics to be Discussed |
|---------|------------------------|
| 1 | Unix commands |
| 2 | Shell programming |
| 3 | Shell programming |
| 4 | Character driver |
| 5 | Makefile |
| 6 | Banker's Algorithm |
| 7 | Kernel module and character driver |
| 8 | Pthreads |
| 9 | Virtual memory: Page replacement algorithm |
| 10 | CPU Scheduling Algorithm |
| 11 | Unix System Call (process) |
| 12 | Compilation steps of C program |
| 13 | Test |

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# Department of Computer Science and Engineering
Khulna University of Engineering & Technology
Khulna - 9203, Bangladesh

## <u>Course Plan/Profile</u>

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1. **Course No.:**CSE 3207                                          **Contact Hours:3**
2. **Course Title:**Applied Statistics and Queuing Theory
3. **Course Teacher:** Prottoy Saha
4. **Course Content:**

**Introduction:**Elementary Concepts, Laws of Probability, Conditional probability and Bayes Theorem, Random Variables

**Distribution of Sampling Statistics:**Sample, Population, Sample Mean and Variance, Distribution of Sample Mean, Central Limit Theorem.

**Correlation and Analysis of Variance:**Correlations, Rank correlation, One way analysis of variance, Two factor analysis of variance.

**Regression:**Simple linear regression model, Estimation of the regressions parameters, Method of least squares, Error of random variable, Regression to the mean, Coefficient of determination, Sample correlation coefficient hypothesis testing, Tests of independence and Goodness of fit.

**Parameter Estimation:**Estimation of Population mean, Interval estimators & lower-upper bounds of population mean using known and unknown variances.

**Hypothesis Testing:** Test concerning the mean of a normal population, Testing equality of means of two normal populations, Test concerning the variance of normal population, Statistical significance, T-tests, Chi-Square Tests, Chi-Square Test of goodness-of-fit.

**Markov Chains:**Discrete time Markov chains, Continuous time Markov chains, Birth-Death Process, Embedded Markov Chain,Markov Inequality, Chebyshev's inequality.

**Queuing Models:**M/M/1, M/M/C, M/G/1, M/D/1, G/M/1, Open and Closed Queuing Network, Network of exponential servers, Phase dependent arrival and Service application of queuing model.

5. **References:**
   a. **Probability & Statistics for Engineers & Scientists (9th ed)** – *R E Walpole, RH Myers, SL Myers, KYe*
   b. **Probability & Statistics forEngineers and Scientists(4th ed)** –*Sheldon M. Ross*
   c. **Probability and Statistics for Computer Scientists (2nd ed)** –*Michael Baron*
   d. **Operations Research an Introduction,** *H A Taha*
   e. *Operations Research Application and Algorithms,* *W L Winston*

f. **Probability and Statistics for Engineers,** *Richard A. Johnson*

g. **Applied Statistics and Probability for Engineers,** *Douglas C. Montgomery, George C. Runger*

h. **Probability and Statistics with Reliability, Queuing, and Computer Science Application,** *K S Trivedi*

## 6. Learning Outcome:

Upon successful completion of this course, students will be able to

- define, illustrate, and apply the concepts of basic probability theory;
- apply the concepts of random variables, their pmf and pdf, including some (binomial, Poisson, normal, exponential) standard probability distributions;
- understand the concept and need of testing of hypothesis;
- perform parameter testing techniques, including single and multi-sample tests for means, standard deviations;
- perform non-parametric testing techniques, including single and multi-sample tests for means, standard deviations and proportions;
- Demonstrate essential stochastic modelling tools including Markov chains and queuing theory;
- derive and apply main formulas for some properties (such as stationary probabilities, average waiting and system time, expected number of customers in the que, etc.) of M/M/1, M/M/1/K and M/G/1 queueing systems.
- calculate the traffic intensity, blocked traffic and the utilization of some queueing systems

## 7. Class Schedule:

| Sl. No. | Week | Class | Topics to be Discussed | Text & Reference Book |
|---------|------|-------|------------------------|------------------------|
| 1. | | Class 1 | Sample, Population, Sample Mean and Variance, | Ref. (a) |
| 2. | Week 1 | Class 2 | Distribution of Sample Mean, Central Limit Theorem. | Ref. (a) |
| 3. | | Class 3 | Variability Measures of a Sample: The Sample Variance, Standard Deviation and Range, Sampling Distribution of Chi-Square, | Ref. (a) |
| 4. | | Class 4 | F Distribution, T- Distribution | Ref. (a) |
| 5. | Week 2 | Class 5 | Testing a Statistical Hypothesis, Statistical significance | Ref. (a) |
| 6. | | Class 6 | The Role of $\alpha$, $\beta$, and Sample Size, The Use of P-Values for Decision Making in Testing | Ref. (a) |

| | | | Hypotheses. | |
|---|---|---|---|---|
| 7. | Week 3 | Class 7 | Single Sample: Tests Concerning a Single Mean, Tests on a Single Sample (Variance Unknown), | Ref. (a) |
| 8. | Week 4 | Class 8 | Test concerning the mean of a normal population, Testing equality of means of two normal populations | Ref. (a) |
| 9. | Week 5 | Class 9 | One Sample: Test on a Single Proportion, Two Samples: Tests on Two Proportions, One and Two Sample Tests Concerning Variances | Ref. (a) |
| 10. | Week 5 | Class 10 | Goodness-of-Fit Test, Test for Independence (Categorical Data), Test for Homogeneity, | Ref. (a) |
| 11. | Week 6 | Class 11 | Statistical Inference, Classical Methods of Estimation, Single Sample: Estimating the Mean, Standard Error of a Point Estimate | Ref. (a + b) |
| 12. | Week 6 | Class 12 | Two Samples: Estimating the Difference between Two Means, Single Sample: Estimating a Proportion, | Ref. (a + b) |
| 13. | Week 7 | Class 13 | Two Samples: Estimating the Difference between Two Proportions, Single Sample: Estimating the Variance, Two Samples: Estimating the Ratio of Two Variances | Ref. (a + b) |
| 14. | Week 7 | Class 14 | Introduction to Linear Regression, The Simple Linear Regression (SLR) Model, Least Squares and the Fitted Model. | Ref. (a + b) |
| 15. | Week 8 | Class 15 | **Class Test** | Ref (c, d, e) |
| 16. | Week 9 | Class 16 | Properties of the Least Squares Estimators, Inferences Concerning the Regression Coefficients | Ref. (a + b) |
| 17. | Week 10 | Class 17 | Choice of a Regression Model, Analysis-of-Variance Approach | Ref. (a + b) |
| 18. | Week 11 | Class 18 | Data Plots and Transformations, One-Way Analysis of Variance, Multiple Comparisons of Sample Means | Ref. (b) |
| 19. | Week 12 | Class 19 | One-Way Analysis of Variance with Unequal Sample Sizes, | Ref. (b) |
| 20. | Week 13 | Class 20 | Two-Factor Analysis Of Variance: Introduction And Parameter Estimation,Two-Factor Analysis Of Variance: Testing Hypotheses | Ref. (b) |

8. **Date of Class Test:**

9. **Signature of the Course Teacher:**

# Department of Computer Science and Engineering
### Khulna University of Engineering & Technology
Khulna - 9203, Bangladesh

### Course Plan/Profile

1. **Course No.: CSE 3211**                                    **Contact Hours: 3 hours/week**
2. **Course Title: Compiler Design**
3. **Course Teacher: K. M. Azharul Hasan, Md. Abdul Awal**
4. **Course Content:**

   **Introduction to Compiler:** Phases of compilation and overview. Compiling techniques including parsing, semantic processing, and optimization; Complier- compliers and translator writing systems.

   **Lexical Analysis:** The role of the lexical analyzer, specification and recognition of tokens, lexical analyzer generator.

   **Syntax Analysis (Parser):** Top-down parsing, Bottom-up parsing, Operator-precedence parsing, Ambiguity, LL and LR parsers.

   **Run-time storage management and run time support:** Parameter passing mechanisms, Stack storage organization and templates, Heap storage management, memory allocation and scope.

   **Intermediate Code Generation:** Translation of different language features, different types of intermediate forms, languages, declarations and assignment statements.

   **A Simple One-Pass Compiler:** Syntax definition, Syntax-directed translation, Parsing, A translator for simple expression, Lexical analysis.

   **Syntax-Directed Translation:** Syntax-directed definitions, Construction of syntax tree.

   **Type Checking:** Type systems, Specification of a simple type checker, Equivalence of type expression, Type conversions.

   **Code Generation:** Issue in the design of a code generator, the target machine, Run-time storage management, Basic blocks and flow graphs, Next-use information, a simple code generator, Register allocation and assignment, the dag representation of basic blocks, Peephole optimization.

   **Code Optimization:** Introduction, The principle source of optimization, Optimization of basic blocks.

5. **Learning Objectives:**
   - To introduce the major concept areas of language translation and compiler design.
   - To enrich the knowledge in various phases of compiler and its use, code optimization techniques, machine code generation, and use of symbol table.
   - To extend the knowledge of parser by parsing LL parser and LR parser.
   - To provide practical programming skills necessary for constructing a compiler.
   - Influences on programming language design or to design a translator in general;
   - Enhancing the knowledge of data Structures and algorithms and to apply those concepts in non-trivial scenarios.

6. **Learning Outcomes:** On successful completion of the course students will be able to:

- ➢ To apply the knowledge of **flex** tool and **bison** tool to develop a scanner and parser.
- ➢ To specify and analyze the lexical, syntactic and semantic structures of advanced language features.
- ➢ To design and conduct experiments for Intermediate Code Generation in compiler.
- ➢ To design & implement a software system for backend of the compiler.
- ➢ To deal with different translators.
- ➢ To develop program to solve complex problems in compiler.
- ➢ To acquire the knowledge of modern compiler & its features.
- ➢ To learn and use the new tools and technologies used for designing a compiler.
- ➢ Turn fully processed source code for one language into machine code for a computer.

7. **References:**

- ➢ Compilers Principles, Techniques, and Tools → Jeffrey Ullman, Alfred Aho, Monica S. Lam, Ravi Sethi.

8. **Class Schedule:**

| Sl. No. | Week | Class | Topics to be Discussed | Text & Reference Book |
|---------|--------|----------|------------------------------------------------------------------------|-----------------------|
| 1. | Week 1 | Class 1 | Phases of compilation and overview | Ref. 1: Chap. 1 |
| 2. | Week 1 | Class 2 | The role of the lexical analyzer | Ref. 1: Chap. 1 |
| 3. | Week 1 | Class 3 | Course Introduction and Discussion | Ref. 1: Chap. 2 |
| 4. | Week 2 | Class 4 | lexical analyzer generator | Ref. 1: Chap. 3 |
| 5. | Week 2 | Class 5 | specification and recognition of tokens | Ref. 1: Chap. 3 |
| 6. | Week 2 | Class 6 | A Simple One-Pass Compiler: Introduction, Syntax definition. | Ref. 1: Chap. 2 |
| 7. | Week 3 | Class 7 | Syntax Analysis | Ref. 1: Chap. 4 |
| 8. | Week 3 | Class 8 | Syntax Analysis | |
| 9. | Week 3 | Class 9 | A Simple One-Pass Compiler: Syntax-directed translation, Parsing. | Ref. 1: Chap. 2 |
| 10. | Week 4 | Class 10 | Syntax Analysis | Ref. 1: Chap. 4 |
| 11. | Week 4 | Class 11 | Syntax Analysis | Ref. 1: Chap. 4 |
| 12. | Week 4 | Class 12 | A Simple One-Pass Compiler: A translator for simple expression, Lexical analysis. | Ref. 1: Chap. 2 |
| 13. | Week 5 | Class 13 | Syntax Analysis | Ref. 1: Chap. 4 |
| 14. | Week 5 | Class 14 | Syntax Analysis | Ref. 1: Chap. 4 |
| 15. | Week 5 | Class 15 | Syntax-Directed Translation: Syntax-directed definitions. | Ref. 1: Chap. 5 |
| 16. | Week 6 | Class 16 | Syntax Analysis | Ref. 1: Chap. 4 |
| 17. | Week 6 | Class 17 | Run-time storage management | Ref. 1: Chap. 7 |
| 18. | Week 6 | Class 18 | Syntax-Directed Translation: Construction of syntax tree. | Ref. 1: Chap. 5 |

| 19. | Week 7 | Class 19 | Run-time storage management | Ref. 1: Chap. 7 |
|-----|--------|----------|-----------------------------|-----------------|
| 20. | Week 7 | Class 20 | Class Test | |
| 21. | Week 7 | Class 21 | Type Checking: Type systems, Specification of a simple type checker. | Ref. 1: Chap. 6 |
| 22. | Week 8 | Class 22 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 23. | Week 8 | Class 23 | Type Checking: Equivalence of type expression. | Ref. 1: Chap. 6 |
| 24. | Week 8 | Class 24 | Type Checking: Type conversions. | Ref. 1: Chap. 6 |
| 25. | Week 9 | Class 25 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 26. | Week 9 | Class 26 | Code Generation: Issue in the design of a code generator, the target machine. | Ref. 1: Chap. 9 |
| 27. | Week 9 | Class 27 | Code Generation: Run-time storage management, Basic blocks and flow graphs. | Ref. 1: Chap. 9 |
| 28. | Week 10 | Class 28 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 29. | Week 10 | Class 29 | Code Generation: Next-use information, a simple code generator. | Ref. 1: Chap. 9 |
| 30. | Week 10 | Class 30 | Code Generation: Register allocation and assignment, the dag representation of basic blocks. | Ref. 1: Chap. 9 |
| 31. | Week 11 | Class 31 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 32. | Week 11 | Class 32 | Code Generation: Peephole optimization. | Ref. 1: Chap. 9 |
| 33. | Week 11 | Class 33 | Code Optimization: Introduction. | Ref. 1: Chap. 10 |
| 34. | Week 12 | Class 34 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 35. | Week 12 | Class 35 | Code Optimization: The principle source of optimization. | Ref. 1: Chap. 10 |
| 36. | Week 12 | Class 36 | Code Optimization: Optimization of basic blocks. | Ref. 1: Chap. 10 |
| 37. | Week 12 | Class 37 | Intermediate Code Generation | Ref. 1: Chap. 8 |
| 38. | Week 12 | Class 38 | Code Optimization: Optimization of basic blocks. | Ref. 1: Chap. 10 |
| 39. | Week 12 | Class 39 | Code Optimization: Optimization of basic blocks. | Ref. 1: Chap. 10 |

9. **Date of Class Test:** 25/09/2018, 25/10/2018 and 26/11/2018 (tentative)

10. **Teaching Methodology/Strategy:** Class lectures, Exercises, and Assignments.

11. **Signature of the Course Teacher:**

# Department of Computer Science and Engineering
## Khulna University of Engineering & Technology
### Khulna - 9203, Bangladesh

### Course Plan/Profile

1. **Course No: CSE 3212**                                    **Contact Hours: 0.75**

2. **Course Title: Compiler Design Laboratory.**

3. **Course Teacher: Md. Abdul Awal, Nazia Jahan Khan Chowdhury**

4. **Course Content:** Laboratory works based on **CSE 3211**.

5. **Course Objective:**

   ➢ To introduce the major concept areas of language translation and compiler design.

   ➢ To enrich the knowledge in various phases of compiler and its use.

   ➢ To extend the knowledge of parser by parsing LL parser and LR parser.

   ➢ To provide practical programming skills necessary for constructing a compiler.

6. **Learning Outcome:**

   ➢ To apply the knowledge of *flex* tool and *bison* tool to develop a scanner and parser.

   ➢ To develop program to solve complex problems in compiler.

   ➢ To acquire the knowledge of modern compiler and its features.

   ➢ To learn and use the new tools and technologies used for designing a compiler.

7. **References:**

   1. **Compilers Principles, Techniques, and Tools → Jeffrey Ullman, Alfred Aho, Monica S. Lam, Ravi Sethi.**

   2. **Flex and Bison Manual.**

   3. **Internet.**

8. **Sessional Class Schedule:**

| Sl. No. | Week | Laboratory | Topics to be Discussed | Text & Reference Book |
|---|---|---|---|---|
| 1. | Week 1 + 2 | Lab 1 | **Flex:** Introduction to flex and lexical analysis. | |
| 2. | Week 3 + 4 | Lab 2 | **Flex:** Design own language using flex. | |
| 3. | Week 5 + 6 | Lab 3 | Construction and evaluation of student's work on lexical analysis. | |
| 4. | Week 7 + 8 | Lab 4 | **Bison:** Introduction to bison and parsing. | |
| 5. | Week 9 + 10 | Lab 5 | **Bison:** Parse the language designed in Lab 2 using bison. | |
| 6. | Week 11 + 12 | Lab 6 | Construction and evaluation of student's work on syntax and semantic analysis. | |
| 7. | Week 13 | Lab 7 | Lab test, lab viva and quiz | |

9. **Teaching Methodology/Strategy:** Tools: Flex (Lex), Bison (Yacc) and gcc compiler.

10. **Signature of the Course Teacher(s):**

**Course Plan/Profile**

1. **Course No.: CSE 3218**               **Contact Hours: 0.75**

2. **Course Title: Mobile Computing Laboratory**

3. **Course Teacher: Shaikh Akib Shahriyar and H. M. Abdul Fattah**

4. **Learning Outcome:**

   a. Explore the areas of Mobile Computing & App development.

   b. Evaluate the role of mobile applications in software intensive systems.

   c. Learn about embedded systems (Android & iOS).

   d. Understand the steps of iOS App Development.

   e**.** Able to develop an iOS App.

   f. Design effective user interfaces using human computer interaction principles.

   g. Synthesize new knowledge in the field of computer science by using appropriate research methodologies.

5. **Lab Schedule:**

| Week | Lab | Topics |
|------|-----|--------|
| 1-2 | 1 | Environment Setup and Swift Basic |
| 3-4 | 2 | Project Ideas and Steps of app development |
| 5-6 | 3 | Login & Registration of App & Database |
| 7-8 | 4 | Layout Design |
| 9-10 | 5 | Implementation of project ideas |
| 11-12 | 6 | Implementation of project ideas (Cont.) |
| 13 | 7 | Project Presentation |

6. Teaching Methodology/Strategy: Class lectures, Exercises, Experiments and Assignments.

7. Signature of the Course Teacher:

Department of Computer Science and Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh
Course Plan/Profile

Contact Hours: 3 hrs/week

1. **Course No:** HUM-3207

2. **Course Title:** Sociology and Government

3. **Course Teacher:** Abu-Hena Mostofa Kamal (MK), Assistant Professor (Sociology), Department of Humanities, KUET.

# Course Content

**Sociology (Section-A)**

**Sociological Perspective:** Definition, nature, scope and importance of sociology, social structure of Bangladesh.

**Sociology and Scientific approach:** Methods of social research, stages of social research.

**Primary concepts of sociology:** Society, Community, Association, Institution, Group.

**Social Evolution:** Stages in the evolution of human civilization.

**Culture:** Definition, characteristics, culture contents (material and non-material), cultural lag, culture and civilization.

**Industrial revolution:** The growth of capitalism, features of social consequences, socialism.

**Social Organization:** Family; forms and functions of family, functions of family in modern industrial society, marriage, forms of marriage, functions of marriage, Urbanization and industrialization.

**Social change:** Change-evolution-progress-development, factors of social change.

**4. Learning outcome:**

By the end of this course it is expected that students will be able to understand:

   I.    Context of origin and development of sociology

  II.    Significance of studying sociology in personal and professional life

 III.    Culture and its impact in human life

 IV.    Basic concepts of sociology and its differences

  V.    Social structure of Bangladesh

 VI.    Urban social problems and its consequences

VII.    Case-effect relationship of social change

**5. Class Schedule**

| Sl. No. | Week | Class | Topics to be discussed |
|---------|------|-------|------------------------|
| 1 | 1 | 1 | Introduction- definition and meaning, importance of sociology |
| 2 | 1 | 2 | Origin and development of sociology |
| 3 | 1 | 3 | Nature and Scope of sociology |
| 4 | 2 | 4 | Society and its characteristics; |
| 5 | 3 | 5 | Community and its types, characteristics, distinction between society and community |
| 6 | 4 | 6 | Institution and association and its distinction, group, |
| 7 | 4 | 7 | Family; forms and functions of family, functions of family in modern industrial society, |
| 8 | 5 | 8 | Marriage, forms of marriage, functions of marriage |
| 9 | 6 | 9 | **Culture and civilization:** Stages in the evolution of human civilization; |

| | | | |
|---|---|---|---|
| 10 | 6 | 10 | **Culture and civilization:** definition and characteristics of culture, culture contents, culture and civilization, relationship |
| 11 | 7 | 11 | **Culture and civilization:** Elements of culture, civilization, cultural lag |
| 12 | 8 | 12 | **Culture and civilization:** culture and civilization |
| 13 | 9 | 13 | **Social change:** Change-evolution-progress-development, factors of social change. |
| 14 | 10 | 14 | **Social change:** Factors behind social change, Urbanization and industrialization. |
| 15 | 11 | 15 | **Social Evolution:** Stages in the evolution of human civilization. |
| 16 | 11 | 16 | **Industrial revolution:** The growth of capitalism, Features of social consequences, socialism. |
| 17 | 12 | 17 | **Sociology and Scientific approach:** Methods of social research. |
| 18 | 12 | 18 | **Sociology and Scientific approach:** Stages of social research. |
| 19 | 13 | 19 | **Quick over view of the entire course and syllabus** |

**6. Teaching methodology/strategy:**

Interactive

**7. Reference Book:**

a. R.T. Schaefer, Sociology, McGraw Hill, New York, 2009.

b. C.N. Shamkar Rao, Sociology, S.Chand and Sons, Delli, 2007.

c. Anthony Giddens, Sociology, McGraw Hill, New York, 2006.

d. James B. Mckee, Introduction to Sociology, Holt Rinehart and Winston University, Inc, 1969.

**8. Class test:**

a. 1st class test-23/09/18

b.  2<sup>nd</sup> class test- 27/10/18

**9.  Signature of the course teacher:**