

**DEPARTMENT OF DISTANCE EDUCATION
PUNJABI UNIVERSITY, PATIALA
SYLLABUS**

**B.COM. PART-II
FOR 2020-21
SCHEME OF STUDY**

Semester-III

Semester Wise Papers	Marks
BC -301: Punjabi	50
BC- 301-A : Punjabi Compulsory (Elementary Knowledge) (Special Paper in lieu of Punjabi)	50
BC -302: English(Communication Skills)	50
BC -303: Principles of Business Management	100
BC -304: Corporate Accounting - I	100
BC -305: Income Tax Law – I	100
BC -306: Business Statistics	100
Environmental and Road Safety Awareness (Qualifying paper)	100

SEMESTER- IV

Semester Wise Papers	Marks
BC -401: Punjabi	50
BC -401-A: Punjabi Compulsory(Elementary Knowledge) (Special Paper in lieu of Punjabi)	50
BC -402: English(Communication Skills)	50
BC -403: Company Law	100
BC -404: Corporate Accounting- II	100
BC -405: Income Tax Law – II	100
BC -406: Operations Research	100

Criteria for Internal Assessment

Response Sheets/assignments need to be submitted by students. The question bank can also be downloaded from www.pupdepartments.ac.in/de

**B.COM. PART-II (IIIrd Semester)
BC 301 - ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ**

Time allowed : 3 hrs

Max. Marks :50

External Assessment :35

Pass Marks : 35%

Internal Assessment: 15

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਭਾਗ-ੳ

ਨਾਵਲ: **ਇਕ ਮਿਆਨ ਦੇ ਤਲਵਾਰਾਂ**, (ਪੂਰਾ ਨਾਵਲ) ਨਾਨਕ ਸਿੰਘ

ਭਾਗ-ਅ

ਅ-1 ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ

ਅ-2 ਵਿਆਕਰਣ:

- (i) ਮੂਲ ਵਿਆਕਰਨਕ ਇਕਾਈਆਂ ਦੀ ਪਛਾਣ ਤੇ ਸਥਾਪਤੀ
- (ii) ਵਾਕ ਬਣਤਰ ਅਤੇ ਵਾਕ ਰਚਨਾ
- (iii) ਉਪਵਾਕ ਬਣਤਰ : ਪਛਾਣ ਤੇ ਕਾਰਜ

ਭਾਗ-ੲ

ਭਾਗ ੳ ਅਤੇ ਅ ਦੇ ਵਿਆਕਰਣ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।

ਅੰਕ-ਵੰਡ ਤੇ ਪੇਪਰ ਸੈੱਟਰ ਲਈ ਹਦਾਇਤਾਂ

1. ਭਾਗ ੳ ਵਿਚੋਂ ਨਾਵਲ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ/ਨਾਵਲ ਕਲਾ 5 ਅੰਕ
2. ਪਾਤਰ ਚਿਤਰਨ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ) 6 ਅੰਕ
3. ਦਫ਼ਤਰੀ ਚਿੱਠੀ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 4 ਅੰਕ
4. ਭਾਗ ਅ-2 ਵਿਚਲੇ ਵਿਆਕਰਣ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 5 ਅੰਕ
5. ਭਾਗ ੳ ਵਿਚੋਂ ਨਾਵਲ **ਇਕ ਮਿਆਨ ਦੇ ਤਲਵਾਰਾਂ** ਅਤੇ ਅ-2 **ਵਿਆਕਰਣ** ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ 15 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਇਕ ਅੰਕ ਦਾ ਹੋਵੇਗਾ। 15x1=15 ਅੰਕ

ਸਹਾਇਕ ਪਾਠ-ਸਮੱਗਰੀ

1. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਣ ਭਾਗ-।, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ ਜਲੰਧਰ, 1991, ਪੰਨਾ 67-73
2. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਣ ਭਾਗ-।।, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ ਜਲੰਧਰ, 1992
3. ਗਿ. ਲਾਲ ਸਿੰਘ ਤੇ ਹਰਕੀਰਤ ਸਿੰਘ, ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀ. ਟੈਸਕਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ
4. ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਸਾਹਿਤਆਰਥ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ

5. ਪੰਜਾਬੀ ਦੁਨੀਆਂ (ਨਾਨਕ ਸਿੰਘ ਵਿਸ਼ੇਸ਼ ਅੰਕ), ਭਾਸ਼ਾ ਵਿਭਾਗ ਪੰਜਾਬ, ਪਟਿਆਲਾ
6. ਡਾ. ਜਗਜੀਤ ਸਿੰਘ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ: ਸ਼ਰੇਣੀਆਂ ਤੇ ਇਕਾਈਆਂ
7. ਖੋਜ ਪਤ੍ਰਿਕਾ (ਗਲਪ ਵਿਸ਼ੇਸ਼ ਅੰਕ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ

BC 301-A: PUNJABI COMPULSORY (ELEMENTARY KNOWLEDGE)
(Special paper in lieu of Punjabi Compulsory)

Time allowed : 3 hrs

Max. Marks :50

External Assessment :35

Pass Marks : 35%

Internal Assessment: 15

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ
ਭਾਗ-ੳ

ਨਿਰਧਾਰਤ ਪੁਸਤਕ: **ਪੰਜਾਬੀ ਦੀ ਪਾਠ ਪੁਸਤਕ, ਪ੍ਰੋ. ਬਲਦੇਵ ਸਿੰਘ ਚੀਮਾ**, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ

ਭਾਗ- ਅ

- ਅ-1 ਵਿਸ਼ਰਾਮ ਚਿੰਨ ਦੀ ਵਰਤੋਂ
ਅ-2 ਸ਼ਬਦ ਜੋੜਾਂ ਦੀ ਸੁਧਾਈ
ਅ-3 ਪੈਰਾ ਰਚਨਾ: ਵਿਦਿਅਕ ਜਾਂ ਸੈਰ ਸਪਾਟੇ ਨਾਲ ਸਬੰਧਤ

ਭਾਗ-ੲ

ਉਪਰੋਕਤ ਪਾਠਕ੍ਰਮ ਤੇ ਆਧਾਰਤ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।

ਅੰਕ ਵੰਡ ਤੇ ਪੇਪਰ ਸੈੱਟਰ ਲਈ ਹਦਾਇਤਾਂ

1. ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਮੁਢਲਾ ਗਿਆਨ ਪ੍ਰਾਪਤ ਕੀਤਾ ਹੈ। ਇਸ ਲਈ ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਭਾਸ਼ਾ ਅਤੇ ਲਿਪੀ ਦੇ ਗਿਆਨ ਨੂੰ ਧਿਆਨ ਵਿਚ ਰਖਦਿਆਂ ਸਰਲ, ਸਪਸ਼ਟ ਅਤੇ ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੀ ਪੁੱਛੇ ਜਾਣ।
2. ਸਾਰੇ ਭਾਗਾਂ ਵਿੱਚੋਂ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।
3. ਸਰਲ ਤੇ ਸਪਸ਼ਟ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।
4. ਵਰਣਾਤਮਕ ਪ੍ਰਸ਼ਨ ਨਾ ਪੁੱਛੇ ਜਾਣ।
5. ਲੋੜ ਅਨੁਸਾਰ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਛੋਟ ਜਾਂ ਚੋਣ ਦੇਣੀ ਲਾਜ਼ਮੀ ਹੈ।
6. ਭਾਗ ੳ ਵਿੱਚੋਂ ਕਿਸੇ ਕਵਿਤਾ ਦੇ ਸਰਲ ਅਰਥ ਜਾਂ ਸਾਰ (ਪੰਜ ਵਿੱਚੋਂ ਦੋ) 2x2= 4 ਅੰਕ
7. ਕਿਸੇ ਕਾਵਿ ਟੁਕੜੇ ਤੇ ਭਾਵ ਅਰਥ (ਤਿੰਨ ਵਿੱਚੋਂ ਇਕ) 2 ਅੰਕ
8. 15 ਸ਼ਬਦ ਦੇ ਕੇ 10 ਸ਼ਬਦਾਂ ਦੇ ਸ਼ਬਦ ਜੋੜ ਸੁੱਧ ਕਰਨੇ 5 ਅੰਕ
9. ਕਿਸੇ ਦਿੱਤੇ ਪੈਰੇ ਜਾਂ ਵਾਕਾਂ ਵਿਚ ਵਿਸ਼ਰਾਮ ਚਿੰਨਾਂ ਦੀ ਵਰਤੋਂ 4 ਅੰਕ
10. ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਜੀਵਨ ਦੇ ਕਿਸੇ ਆਮ ਵਿਸ਼ੇ ਨਾਲ ਸਬੰਧਿਤ ਪੈਰੂ; ਰਚਨਾ 5 ਅੰਕ
11. ਭਾਗ ੲ ਵਿਚ ਸਾਰੇ ਸਿਲੇਬਸ ਤੇ ਆਧਾਰਤ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 15 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਨੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉਤਰ 3-4 ਸਤਰਾਂ ਵਿਚ ਦੇਣਾ ਹੋਵੇਗਾ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਇਕ ਅੰਕ ਦਾ ਹੋਵੇਗਾ। 15x1=15 ਅੰਕ

BC 302: ENGLISH (COMMUNICATION SKILLS)

Time allowed : 3 hrs

Max. Marks :50

External Assessment :35

Pass Marks : 35%

Internal Assessment: 15

COURSE CONTENT AND TESTING**Popular Short Stories (OUP)**

The following stories are not to be studied.

1. The World Renowned Nose by V. M. Bashir
2. The Dying Detective by Sir Arthur Conan Doyle
3. Living or Dead? by Rabindranath Tagore
4. Monal Hunt by Manohar Malgonkar
5. Old Man at the Bridge by Ernest Hemingway

Testing:

Q1. (a) One essay type question with an internal alternative on summary, theme, incident or character in about 250 words.

(b) Five short questions to be attempted out of the given eight from the prescribed text in about 30 words each. 4+5= 9

Q 2. Composition

Paragraph- The student should be asked to write a paragraph on any one of the given four current topics. 6

Q3. Letter Writing

The students should be asked to write a letter with an internal alternative on the following topics:

- a) Official Letter including application for a job.
- b) Letter to a Newspaper Editor on the matters of Public Interest particular by economic, social business and current affairs. 4

Q4 Usage of Language: Topics to be covered

- a) Transformation of Sentences
- b) Use of Direct and Indirect Speech
- c) Correction of Sentences
- d) Formation of Nouns, Verbs, Adjectives of the given words and their use in illustrative sentences. 4+4+4+4=16

(The students should be asked to attempt any four of the given six from each of the above)

Books Recommended

1. The Written Word- Vandana R.Singh
2. Living English Structure- W.Stannard Allen
3. Oxford Practice Grammar- John East Wood

BC 303: Principles of Business Management

Time allowed : 3 hrs

Max. Marks :100

External Assessment :70

Pass Marks : 35%

Internal Assessment: 30

Instructions for Paper-Setters/Examiners

The question paper covering the entire course shall be divided into three sections as follows:

SECTION-A

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks. .

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT - I

Introduction: Concept, nature, process and significance of management; An overview of functions of Management.

Planning: Concept, process and types; Decision making: Concept and process. Management by objectives. Organising: Concept, nature, process and significance; Authority and responsibility relationships. Staffing: Nature, Scope and Process.

UNIT - II

Motivation: Concept, Theories : Maslow, Herberg, McGregor. Leadership: Concept and leadership styles, Leadership theories. Communication: Nature, process, networks and barriers, Effective communication.

Controlling : Nature, importance, areas of control, control process. Management of Change: Concept, Nature and process of planned change.

Suggested Readings:

1. Management by Koontz O' Donnel

2. Principal & Practices of Management by LM Prasad
3. Fundamentals of Management by Terry and Franklin
4. Knowledge Management in Business by Groff and Jones
5. Principles and Techniques of Business by CP Mahajan
6. Time Management by Rolph Lewis

BC 304: Corporate Accounting -I

Time allowed : 3 hrs

Max. Marks :100

External Assessment :70

Pass Marks : 35%

Internal Assessment: 30

Note : Simple Calculator(not scientific) is allowed

INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINERS

The question paper covering the entire course shall be divided into three sections as follows.

SECTION-A

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT - I

Corporate Accounting as per the Companies Act 2013: Issue, forfeiture and re-issue of shares; Redemption of preference shares; Issue and redemption of debentures; Issue of bonus shares and right shares; Underwriting of shares and debentures; Accounts of underwriters.

UNIT - II

Final Accounts including computation of managerial remuneration and disposal of profit; Profit prior to and after incorporation; consolidated balance sheet of holding companies with one subsidiary only, AS-21.

Suggested Readings:

1. S.P.Jain: Corporate Accounting
2. C.M.Juneja: Corporate Accounting
3. VK Goyal: Corporate Accounting
4. Nirmal Gupta: Corporate Accounting
5. Raj Kumar Sah : Corporate Accounting

BC305: Income Tax Law -I

Time allowed : 3 hrs

Max. Marks :100

External Assessment :70

Pass Marks : 35%

Internal Assessment: 30

Note : Simple Calculator(not scientific) is allowed**INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINERS**

The question paper covering the entire course shall be divided into three sections as follows.

SECTION-A

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT - I

Definitions, Distinction between Capital and Revenue; Basis of charge; Incidence of tax, Exempted incomes; Agriculture Income & its tax treatment. Computation of Income from salaries and house property

UNIT - II

Profit and gains from business and profession, including depreciation Capital gains, Income from other sources. Carry forward and set off of losses, Income of other persons to be included in assessee's total income.

Suggested Readings:

1. Income Tax by C.A Parul Gupta
2. Income Tax and Central Sales Tax Law and Practices by B.B Lal
3. Income Tax by Mehrotra
4. Students to Guide to Income Tax, V.K. Singhania & Kapil Singhania
5. "The income Tax Law- A simple Guide to Theory" Shailinder Sekhon

BC 306: BUSINESS STATISTICS

Time allowed : 3 hours

Max Marks: 100

Pass Marks : 35%

Internal Assessment: 30

External Assessment: 70

Instructions for Paper-Setters/Examiners

The question paper covering the entire course shall be divided into three sections as follows:

SECTION-A

It will consist of essay type questions. Four questions (two theory and two numericals) shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type questions. Four questions shall (two theory and two numericals) be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions (six theory and six numericals) from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT-I

Introduction to Statistics-Definition, Importance and Limitations, Functions and scope
Measures of Central Tendency: Mean, Median, Mode. Measures of dispersion: Range, Quartile deviation, Mean deviation and Standard deviation.

Analysis of Time Series: Causes of variations in time series multiplicative models; Determination of trends, Moving averages method and method of least squares (including linear, second degree, parabolic and exponential trends); Computation of seasonal-indices by simple averages, ratio-trend, ratio-to-moving average, and link relative methods.

UNIT-II

Index numbers: Need, definition and limitations of index numbers-simple and weighted index numbers- Laspyer's, Paasche's and Fisher Index numbers, Criterion of ideal index numbers, problems involved in the construction of index numbers.

Correlation: Meaning, types and measurement of correlation (Karl Pearson's methods and Spearman's rank correlation).

Regression: Meaning, Regression Equation of X on Y and Y on X.

Forecasting Methods: Forecasting Concept, types and importance; General approach to forecasting ; Methods of forecasting; Forecasting demand; Industry Vs. Company sales forecasts; Factors affecting company sales.

Books Recommended

- | | | | |
|----|----------------------------|---|---------------------------------------|
| 1. | R.P. Hooda | : | Statistics for Business and Economics |
| 2. | S.P. Gupta | : | Statistics Methods |
| 3. | S.C. Gupta and V.K. Kapoor | : | Fundamentals of Applied Statistics. |

Environmental and Road Safety Awareness

Session: 2019-20, 2020-21 & 2021-22

Total Marks : 100

Theory : 60 marks

Internal Assessment: 15

(5 for Attendance & 10 for MST)

Mandatory field visit to PG

Science City & Report : 25 Marks

Max Time: 3 hrs.

Lectures per week 5

Credits: 04

PRIVATE/DISTANCE EDUCATION STUDENTS

Max Marks: 100

Max Time: 3hrs.

Lectures per week 5

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 15 marks. Section C will consist of 20 short answer type questions of 2 marks each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions from each section A and B. Section C is compulsory.

SECTION-A

INTRODUCTION TO ENVIRONMENTAL STUDIES:

The multidisciplinary nature of environmental studies. Definition, scope and importance
Concept of Biosphere – Lithosphere, Hydrosphere, Atmosphere.

ECOSYSTEM & BIODIVERSITY CONSERVATION

Ecosystem and its components, Types of Ecosystems

Biodiversity - Definition and Value, Threats to biodiversity and its conservation

Level of biological diversity: genetic, species and ecosystem diversity; bio-geographic zones of India; biodiversity patterns and global biodiversity hot spots.

India as Mega-biodiversity nation; Endangered and endemic species of India.

Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational value.

NATURAL RESOURCES–RENEWABLE AND NON RENEWABLE RESOURCES

Land resources and land use change; land degradation, soil erosion and desertification.

Deforestation: causes and impacts due to mining, dam building on environment, Forests, Biodiversity and tribal populations.

Water: Use and over-exploitation of surface and ground water, Floods, droughts, conflicts over water (international & inter-state)

Energy resources: renewable and nonrenewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Environmental Pollution

Environmental Pollution : types, causes, effects and controls; Air, Water, Soil and noise pollution. Nuclear hazards and human health risks Solid waste management, Source Segregations : Control measures of urban and Industrial waste. Pollution case studies.

SECTION-B

ENVIRONMENTAL PROTECTION LAWS IN INDIA

Environmental protection act for; Air (Prevention and control of pollution), Water (Prevention and Control of pollution), Wild life, Forest Conservation, Issues involved in the enforcement of environmental legislation. Role of an individual in prevention of pollution.

Environmental policies & Practices; Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.

Human Communities and the Environment

Human population growth: Impacts on environment, human health and welfare, Sanitation & Hygiene. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquake, cyclones and landslides. Environment movements: Chipko, Silent valley, Bishnois of Rajasthan. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation for a Clean-green pollution free state.

Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi)

ROAD SAFETY AWARENESS

Concept and significance of Road safety, Traffic signs, Traffic rules, Traffic Offences and penalties, How to obtain license, Role of first aid in Road Safety.

Stubble Burning

Meaning of Stubble burning.

Impact on health & environment.

Management and alternative uses of crop stubble.

Environmental Legislations and Policies for Restriction of Agriculture Residue Burning in Punjab.

Field Work

Visit to an area to document environmental assets: river/Forest/Flora/Fauna, etc.

Visit to Local polluted site –urban/Rural/Industrial/Agricultural.

Study of common Plants, Insects, Birds and basic principles of identification.

Study of simple ecosystems-pond, river, Delhi Ridge, etc.

Suggested Readings :

1. Carson, R.2002. Silent Spring, Houghton Mifflin Harcourt.
2. Gadgil. M., & Guha,R.1993. This Fissured Land : An Ecological History of India. Univ. of California Press.
3. Gleeson, B. and Low, N.(eds.)1999. Global Ethics and Environment, London, Routledge.
4. Gleick,P.H.1993. Water in Crisis.Pacific Institute for Studies in Dev. Environment & Security. Stockholam Env. Institute, Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. Principles of Conservation Biology. Sunderland : Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalays dams. Science,339:36-37.
7. McCully,P.1996. Rivers no more: the environmental effects of dams (pp.29-64). Zed Books.
8. McNeill, John R. 2000. Something New Under the Sun : An Environmental History of the Twentieth Century.
9. Odum, E.P., H.T & Andrews, J.1971. Fundamentals of Ecology. Philadelphia : Saunders.
10. Pepper, I.L., Gerba ,C.P & Brusseau, M.L. 2011. Environmental and Pollution Sciences. Academic Press.
11. Rao, M.N. & Datta, A.K.1987. Waste Water Treatment. Oxford and IBH Publishing Co. Pvt.Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R.2012,Environment. 8Th edition. John Wiles & Sons.
13. Rosencranz, A., Divan, S., & Nobie, M.L. 2001. Environmental law and policy in India. Tripathi 1992

14. Sengupta, R. 2003. Ecology and economics: An approach to sustainable development. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
16. Sodhi, N.S. Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics. John Wiley & Sons.
17. Thapar, V. 1998. Land of the Tiger: A Natural History of the Indian Subcontinent.
18. Warren, C.E. 1971. Biology and Water Pollution Control. WB Saunders.
19. Wilson, E.O. 2006. The Creation: An appeal to save life on earth. New York: Norton.
20. World commission on Environment and Development. 1987. Our Common Future. Oxford University Press.

SEMESTER- IV
BC 401 - ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ

Time allowed: 3 hour
Pass Marks : 35%

Max. Marks :50
External Assessment :35
Internal Assessment: 15

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ
ਭਾਗ-ੳ

ਕਵਿਤਾ ਦੀ ਪੁਸਤਕ ਸੰਪਾਦਿਤ ਕੀਤੀ ਜਾਵੇਗੀ

ਭਾਗ-ਅ

ਅ-1 ਅਖਬਾਰੀ ਰਿਪੋਰਟ ਤਿਆਰ ਕਰਨਾ

ਅ-2 ਵਿਆਕਰਣ

- (i) ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਇਤਿਹਾਸ
- (ii) ਗੁਰਮੁਖੀ ਲਿਪੀ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- (iii) ਪੰਜਾਬੀ ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਿਯਮ

ਭਾਗ-ੲ

ਭਾਗ ੳ ਅਤੇ ਅ ਦੇ ਵਿਆਕਰਣ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।

ਅੰਕ-ਵੰਡ ਤੇ ਪੇਪਰ ਸੈੱਟਰ ਲਈ ਹਦਾਇਤਾਂ

1. ਭਾਗ 'ੳ' ਵਿਚੋਂ ਕਿਸੇ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ/ਕਵੀ ਦਾ ਯੋਗਦਾਨ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 5 ਅੰਕ
2. ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਚਾਰ ਵਿਚੋਂ ਦੋ) 2x3=6 ਅੰਕ
3. ਰਿਪੋਰਟ ਲਿਖਣੀ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 04 ਅੰਕ
4. ਭਾਗ ਅ-2 ਵਿਚਲੇ ਵਿਆਕਰਣ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 5 ਅੰਕ
5. ਭਾਗ ੳ ਵਿਚੋਂ ਕਵਿਤਾ ਦੀ ਪੁਸਤਕ ਅਤੇ ਅ-2 ਵਿਆਕਰਣ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ 15 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 1 ਅੰਕ ਹੋਣਗੇ।
15x1=15 ਅੰਕ

ਸਹਾਇਕ ਪਾਠ-ਸਮੱਗਰੀ

1. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਣ ਭਾਗ-1, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ ਜਲੰਧਰ, 1991, ਪੰਨਾ 67-73.
2. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਣ ਭਾਗ-11, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ ਜਲੰਧਰ, 1992
3. ਗਿ. ਲਾਲ ਸਿੰਘ ਤੇ ਹਰਕੀਰਤ ਸਿੰਘ, ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀ. ਟੈਸਕਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।
4. ਰਾਜਿੰਦਰ ਪਾਲ ਸਿੰਘ, ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਪੁਨਰ ਚਿੰਤਨ, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
5. ਰਾਜਿੰਦਰ ਪਾਲ ਸਿੰਘ, ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਇਤਿਹਾਸ, ਪੰਜਾਬੀ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
6. ਜਸਵਿੰਦਰ ਸਿੰਘ, ਨਵੀਂ ਪੰਜਾਬੀ ਕਵਿਤਾ ਪਛਾਣ ਚਿੰਨ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ।
7. ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਸਾਹਿਤਆਰਥ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।

BC 401-A: PUNJABI COMPULSORY (ELEMENTARY KNOWLEDGE)
(Special paper in lieu of Punjabi Compulsory)

Time allowed: 3 hour
Pass Marks : 35%

Max. Marks :50
External Assessment :35
Internal Assessment: 15

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਨਿਰਧਾਰਤ ਪੁਸਤਕ: ਪੰਜਾਬੀ ਦੀ ਪਾਠ ਪੁਸਤਕ, ਬਲਦੇਵ ਸਿੰਘ ਚੀਮਾ,
ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
(ਇਸ ਪੁਸਤਕ ਵਿੱਚੋਂ ਭਾਗ ਦੂਜਾ: ਸਭਿਆਚਾਰ ਅਤੇ ਲੋਕਧਾਰਾ, ਭਾਗ ਤੀਜਾ: ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਾਲੇ ਭਾਗਾਂ ਨੂੰ ਸਿਲੇਬਸ ਵਜੋਂ ਪੜ੍ਹਿਆ ਜਾਣਾ ਹੈ।

ਭਾਗ-ੳ

ਸਭਿਆਚਾਰ ਅਤੇ ਲੋਕਧਾਰਾ

ਭਾਗ- ਅ

ਅ-1 ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅ-2 ਪੈਰ੍ਹਾ ਰਚਨਾ

ਭਾਗ-ੲ

ਉਪਰੋਕਤ ਪਾਠਕ੍ਰਮ ਤੇ ਆਧਾਰਤ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।

ਅੰਕ ਵੰਡ ਤੇ ਪੇਪਰ ਸੈੱਟਰ ਲਈ ਹਦਾਇਤਾਂ

1. ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਮੁਢਲਾ ਗਿਆਨ ਪ੍ਰਾਪਤ ਕੀਤਾ ਹੈ। ਇਸ ਲਈ ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਭਾਸ਼ਾ ਅਤੇ ਲਿਪੀ ਦੇ ਗਿਆਨ ਨੂੰ ਧਿਆਨ ਵਿਚ ਰਖਦਿਆਂ ਸਰਲ, ਸਪਸ਼ਟ ਅਤੇ ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੀ ਪੁੱਛੇ ਜਾਣ।
2. ਸਾਰੇ ਭਾਗਾਂ ਵਿੱਚੋਂ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।
3. ਸਰਲ ਤੇ ਸਪਸ਼ਟ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।
4. ਵਰਣਾਤਮਕ ਪ੍ਰਸ਼ਨ ਨਾ ਪੁੱਛੇ ਜਾਣ।
5. ਲੋੜ ਅਨੁਸਾਰ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਛੋਟ ਜਾਂ ਚੋਣ ਦੇਣੀ ਲਾਜ਼ਮੀ ਹੈ।
6. ਭਾਗ ੳ ਵਿੱਚੋਂ ਕਿਸੇ ਕਹਾਣੀ ਦਾ ਸਾਰ (ਦੇ ਵਿੱਚੋਂ ਇਕ) 08 ਅੰਕ
7. ਕਿਸੇ ਪਾਤਰ ਸੰਬੰਧੀ ਸੰਖੇਪ ਜਾਣਕਾਰੀ (ਦੇ ਵਿੱਚੋਂ ਇਕ) 04 ਅੰਕ
8. ਨਾਟਕ ਦੇ ਪਾਤਰਾਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ (ਤਿੰਨ ਵਿੱਚੋਂ ਇਕ) 08 ਅੰਕ
9. ਨਿੱਜੀ ਚਿੱਠੀ ਜਾਂ ਪੱਤਰ (ਦੇ ਵਿੱਚੋਂ ਇਕ) 09 ਅੰਕ
10. ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਆਮ ਜੀਵਨ ਨਾਲ ਸਬੰਧਿਤ ਸ਼ਬਦਾਵਲੀ ਦਾ ਅੰਗ੍ਰੇਜ਼ੀ ਅਤੇ ਪੰਜਾਬੀ ਅਨੁਵਾਦ 8+8=16 ਅੰਕ 4 ਅੰਕ
11. ਭਾਗ ੲ ਵਿਚ ਸਾਰੇ ਸਿਲੇਬਸ ਤੇ ਆਧਾਰਤ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 15 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਨੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉਤਰ 3-4 ਸਤਰਾਂ ਵਿਚ ਦੇਣਾ ਹੋਵੇਗਾ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 2 ਅੰਕ ਹੋਣਗੇ। 15x2= 30 ਅੰਕ

BC 402: ENGLISH (COMMUNICATION SKILLS)

Max. Marks :50

Time allowed: 3 hour

External Assessment :35

Pass Marks : 35%

Internal Assessment: 15

COURSE CONTENT AND TESTING

Eight short Plays- Jagdish Chander The following plays are not to be studied:

1. Water loo by Arthur Conan Doyle
2. A Distant Relative by W.W. Jacobs

Testing:

Q1. a) One essay type question with an internal alternative on summary, theme, incident or character in about 250 words.

(b) Five short questions to be attempted out of the given eight from the prescribed text in about 30 words each. 4+5= 9

Q2. Language as a communication tool:

Topics to be covered:

- a) Conducting and facing an Interview
- b) Speech writing
- c) Compering an event
- d) Preparing News for the given situation
- e) Dialogue writing for a given situation
- f) T.V. Radio, Internet

The student should be asked to attempt any two topics out of the given four 6

Q3 Comprehension

The students should be asked to attempt the given five questions from an unseen passage and provide a title for the given passage. 4

Q4. Language usage:

Topics to be covered:

- a) Use of Active and Passive
- b) Use of conditionals
- c) Use of Question Tags and Short answers
- d) Figurative Expressions

(The student should be asked to attempt any four of the given six from each of the above) 4+4+4+4=16

Books Recommended

1. The Written Word- Vandana R.Singh
2. Living English structure- W. Stannard Allen
3. Oxford Practice Grammar- John Eastwood

BC 403: COMPANY LAW

Time allowed : 3 hours

Pass Marks : 35%

Max Marks: 100

Internal Assessment: 30

External Assessment: 70

Instructions for Paper-Setters/Examiners

The question paper covering the entire course shall be divided into three sections as follows:

SECTION-A

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

Course Objective : To acquaint the students with the latest provisions of Companies Act 2013.

UNIT - I

Company : Meaning, features, The Concept of Lifting of Corporate Veil, Emerging Types of Companies. Formation of Company –Promotion & Registration; Preliminary contracts; Memorandum of Association; Articles of Association; Prospectus; Shares & Share Capital, Book Building Process, Dematerialisation of Shares, ASBA System, Transfer & Transmission of Shares, Buyback of Shares.

UNIT - II

Directors; Borrowing Powers (including debentures); Members; Managerial remuneration, Meetings (including Board Meetings); Majority Powers and Minority Rights; Winding-up of the company.

Pedagogy:

The instructor is expected to use leading pedagogical approaches in the class room situation, lectures, case study analysis, group discussions, assignment writing and tests, research based methodology, innovative instructional methods, use of technology in the class room and comprehensive assessment practices to strengthen the teaching efforts .

Suggested Readings:

1. Avtar Singh: Company Law
2. N. D. Kapoor: Company Law

BC 404: Corporate Accounting -II

Max. Marks :100

Time allowed: 3 hour

External Assessment :70

Pass Marks : 35%

Internal Assessment: 30

Note : Simple Calculator (non scientific) is allowed**INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINERS**

The question paper covering the entire course shall be divided into three sections as follows.

SECTION-A

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT - I

Corporate Accounting as per the Companies Act 2013: Amalgamation, absorption, merger and reconstruction, Accounting for amalgamation of companies as per Indian Accounting Standard 14; Accounting for internal reconstruction.

UNIT - II

Liquidation Accounts: Insurance Company Accounting: life insurance and General Insurance: Banking Company accounts: Preparation of Profit and Loss account and balance Sheet.

Suggested Readings:

1. S.P. Jain : Corporate Accounting
2. C.M.Juneja: Corporate Accounting
3. VK Goyal: Corporate Accounting
4. Raj Kumar Sah: Corporate Accounting

BC405: Income Tax Law -II

Max. Marks :100

Time allowed: 3 hour

External Assessment :70

Pass Marks : 35%

Internal Assessment: 30

Note : Simple Calculator(not scientific) is allowed

INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINERS

The question paper covering the entire course shall be divided into three sections as follows.

SECTION-A

It will consist of essay type and numerical questions. Four questions shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type and numerical questions. Four questions shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT - I

Deductions out of gross total income, Computation of total income in regard to income of individuals. HUF, Partnership firm & Companies.

UNIT - II

Advance Payment of Tax; Deduction of tax at source; Income tax authorities and administration of the act, Assessment procedure, Appeals, Refunds and Penalties.

E- Filling of return.

Suggested Readings:

1. Income Tax by C.A Parul Gupta
2. Income Tax and Central Sales Tax Law and Practices by B.B Lal

3. Income Tax by Mehrotra
4. Students to Guide to Income Tax, V.K. Singhania & Kapil Singhania
5. "The income Tax Law- A simple Guide to Theory" Shailinder Sekhon

BC406: OPERATIONS RESEARCH

Time allowed : 3 hours

Pass Marks : 35%

Max Marks: 100

Internal Assessment: 30

External Assessment: 70

Note : Simple Calculator(not scientific) is allowed

INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINERS

The question paper covering the entire course shall be divided into three sections as follows.

SECTION-A

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type and numerical questions. Four questions, two theory and two numerical, shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions (six theory and six numericals) from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

Course Objective: To understand the concepts and techniques of Operations Research for business decision making and to acquire required skills to solve various problems in OR.

UNIT-I

Operational Research: Meaning, Significance and Scope. Introduction to Linear Programming, Formulation of Linear Programming Problem, Graphical Method, Simplex Method. Duality in Linear Programming, Definition of Dual Problem, General Rules in Converting any Primal into its Dual, Transportation Problem, Assignment Problem.

UNIT-II

Decision Theory: Decision Making under Uncertainty and Risk, Decision Trees. Replacement Problem (Individual and Group replacement Problems both). Games Theory

: Two Persons Zero Sum Games, Pure Strategies, Mixed Strategies. Simulation; Meaning, Process, Advantages, Limitations and Applications.

Pedagogy:

The instructor is expected to use leading pedagogical approaches in the class room situation, lectures, case study analysis, group discussions, assignment writing and tests, research based methodology, innovative instructional methods, use of technology in the class room and comprehensive assessment practices to strengthen the teaching efforts.

Suggested Readings:

1. Paneerselvam, Operations Research, Prentice Hall of India, New Delhi.
2. Taha, Operations Research: An Introduction, Prentice Hall of India, New Delhi.
3. Kapoor, V.K., Operations Research, Sultan Chand & Sons, New Delhi.
4. Sharma, J. K., Operations Research, Theory and Applications, Macmillan India Ltd., New Delhi.
5. Kalavathy, Operations Research, Vikas Publishing House New Delhi