

## Syllabus For BA (Economics), Elective Course(GE)

### GE I

#### Micro Economics

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

#### **Unit I: Introduction and Consumer Behaviour**

- 1.1 Subject Matter of Economics, Micro and Macro Economics; Positive and Normative Economics.
- 1.2 Cardinal Utility Analysis: Total and marginal Utility; Law of Diminishing Marginal Utility; Law of Equi-Marginal Utility; Consumer's Equilibrium.
- 1.3 Consumer's Surplus: Marshall and Hicks.
- 1.4 Theory of Demand; Elasticity of Demand: Price, Income and Cross.

#### **Unit 2: Theory of Production**

- 2.1 Production Function: Short Run and Long Run.
- 2.2 Law of Variable Proportions; Returns to Scale: Economies of Scale.
- 2.3 Isoquant Analysis; Iso-Cost Line; Producer's Equilibrium.
- 2.4 Concepts of Costs and their inter-relationship: Short Run and Long Run Cost curves.

#### **Unit 3: Market Structure**

- 3.1 Forms of Market: Perfect and Imperfect Markets: Salient Features.
- 3.2 Equilibrium of the Firm and Industry under Perfect Competition.
- 3.3 Monopoly: Price and Output Determination; Price Discrimination.
- 3.4 Monopolistic Competition: Price and Output Determination.

#### **Unit 4: Distribution**

- 4.1 Marginal Productivity Theory of Distribution.
- 4.2 Theories of Wage: Demand and Supply Theory and Collective Bargaining.
- 4.3 Rent: Scarcity Rent; Differential Rent and Ricardian Theory of Rent.
- 4.4 Interest: Classical and Keynesian Theories.
- 4.5 Profit: Innovation and Risk Theories.

*Chand* 26/4/22  
*Dan* 26/4/22  
*Bimal* 26/4/22  
*Ghosh* 26/4/22

## **Economics**

### **GE- II**

#### **Money Banking, International Trade and Indian Economy**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

#### **Unit 1: Money and Banking**

- 1.1 Money: Meaning & Function: Role of Money in Capitalistic, Socialistic & Mixed Economies.
- 1.2 Quantity Theory of Money: Transactions and Cash Balance Approach.
- 1.3 Inflation : Definition, Types, Causes and Effects of Inflation and Measures to Control Inflation.
- 1.4 Objectives, Functions and Limitations of Central Bank, Credit Control: Quantitative and Qualitative Methods. RBI.
- 1.5 Meaning, Types, Functions and Principles of Commercial Banks, Credit Creation and its process.

#### **Unit 2: Indian Economy**

- 2.1 Poverty and Inequality and Unemployment
- 2.2 Nature, Importance and Trends of Indian Agriculture.
- 2.3 Land Reforms.
- 2.4 New Agricultural Strategy and Green Revolution.

#### **Unit 3: Industry**

- 3.1 Industrial Development during the Planning Period.
- 3.2 Industrial Policies of 1948, 1956 and 1991.
- 3.3 Large Scale Industries: Sugar, Iron and Steel, Jute and Cotton Textile Industries.
- 3.4 Small Scale Industries: Growth, Importance and Problems.

#### **Unit 4: Public Finance and International Trade**

- 4.1 Meaning and Scope of Public Finance; Public Finance and Private Finance. Public Revenue: Meaning ,source and Classification.  
Public Expenditure and Effects of Public Expenditure.
- 4.2 International Economics: Definition, Nature and Importance. Inter-Regional and International Trade.
- 4.3 Gains from Trade: Their Measurement and Distribution.  
Theory of Comparative Costs.
- 4.4 Free Trade vs. Protection, I.M.F. and I.B.R.D.: Their Objectives and functions.

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John 26/4/22

Amrit 26/4/22

Richard 26/4/22

Sophia 26/4/22

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**RESTRUCTURED SYLLABUS FOR B.A. [ECONOMICS] UNDER  
CHOICE BASED CREDIT SYSTEM**

**UNDER VINOBA BHAVE UNIVERSITY HAZARIBAGH.**

**B.A. ECONOMICS [GENERAL]/GENERIC**

<b>Semester I</b> Paper I: Micro Economics I	<b>Semester II</b> Paper I: Money and Banking
<b>Semester III</b> Paper III: Indian Economics	<b>Semester IV</b> Paper IV: Development Issues of Indian Economy
<b>Semester V</b> Paper V: Micro Economics II	<b>Semester VI</b> Paper VI: Public Finance and International Trade

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**Semester I**  
**Paper I**  
**Micro Economics – I**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit I: Introduction**

1.1: Subject Matter of Economics; Central Economic Problems; Production Possibility Frontier.

1.2: Micro and Macro Economics; Positive and Normative Economics.

**Unit 2: Consumer Behaviour and Demand**

2.1: Cardinal Utility Analysis: Total and marginal Utility; Law of Diminishing Marginal Utility; Law of Equi-Marginal Utility; Consumer's Equilibrium.

2.2: Ordinal Utility Analysis: Indifference Curves; Budget Constraints; Consumer's Equilibrium.

2.3: Consumer's Surplus: Marshall and Hicks.

2.6: Theory of Demand; Elasticity of Demand: Price, Income and Cross.

**Unit 3: Theory of Production**

3.1: Production Function: Short Run and Long Run.

3.2: Law of Variable Proportions; Returns to Scale: Economies of Scale.

3.3: Isoquant Analysis; Iso-Cost Line; Producer's Equilibrium.

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**Semester II**  
**Paper - II**  
**Money and Banking**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit 1: Money**

- 1.1: Money: Meaning & Function: Role of Money in Capitalistic, Socialistic & Mixed Economies.
- 1.2: Quantity Theory of Money: Transactions Approach and Cash Balance Approach.

**Unit 2: Central Banking**

- 2.1: Objectives, Functions and Limitations of Central Bank with reference of RBI.
- 2.2: Quantitative and Qualitative Methods of Credit Control.

**Unit 3: Commercial Banking**

- 3.1: Meaning, Types, Functions and Principles of Commercial Banks.
- 3.2: Process of Credit Creation.
- 3.4: Commercial Banking in India: Evaluation of Banking Sector since Independence; Critical Appraisal of Commercial Banking after Nationalization.

**Unit 4: Inflation**

- 4.1: Definition, Types, Causes and Effects of Inflation.
  - 4.2: Measures to Control Inflation.
  - 4.3: Concept of Inflationary Gap.
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**Semester III**  
**Paper - III**  
**Indian Economics**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit 1: Structure of Indian Economy**

- 1.1: Basic Features of Indian Economy
- 1.2: Natural Resources: Land, Water and Forest Resources.
- 1.3: Broad Demographic Features.

**Unit 2: Planning in India**

- 2.1: Objectives, Achievements and Failures of Planning; Analysis of Current Five Year plan.
- 2.2: New Economic Reforms: Liberalization, Privatization and Globalization; Their progress.

**Unit 3: Important Areas of Concern**

- 3.1: Poverty and Inequality;
  - 3.2: Problem of Unemployment;
  - 3.3: Problem of Rising Prices;
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**Semester IV**  
**Paper IV**  
**Development Issues of Indian Economy**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit 1: Agriculture**

- 1.1: Nature, Importance and Trends of Indian Agriculture.
- 1.2: Land Reforms.
- 1.3: New Agricultural Strategy and Green Revolution.
- 1.4: Rural Credit.

**Unit 2: Industry**

- 2.1: Industrial Development during the Planning Period.
- 2.2: Industrial Policies of 1948, 1956 and 1991.
- 2.3: Large Scale Industries: Sugar, Iron and Steel, Jute and Cotton Textile Industries.
- 2.4: Small Scale Industries: Growth, Importance and Problems.

**Unit 3: External Sector**

- 3.1: Role of Foreign Trade.
  - 3.2: Trends in Export and Import.
  - 3.3: Composition and Direction of India's Foreign trade.
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**Semester V**  
**Paper V**  
**Micro Economics - II**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions. **Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit 1: Theory of Costs and Revenue**

- 1.1: Concepts of Costs and their inter-relationship: Short Run and Long Run.
- 1.2: Concepts of Revenue and their inter-relationship; Break-Even Analysis.

**Unit 2: Market Structure**

- 2.1: Forms of Market: perfect and Imperfect Markets: Salient Features.
- 2.2: Equilibrium of the Firm and Industry under Perfect Competition.
- 2.3: Monopoly: Price and Output Determination; Price Discrimination.
- 2.4: Monopolistic Competition: Price and Output Determination.

**Unit 2: Factor Pricing**

- 2.1: Marginal Productivity Theory of Distribution.
  - 2.1: Theories of Wage determination: Demand and Supply Theory and Collective Bargaining.
  - 2.3: Rent: Scarcity Rent; Differential Rent.
  - 2.4: Interest: Classical and Keynesian Theories.
  - 2.5: Profit: Innovation and Risk Theories.
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**Semester VI**  
**Paper VI**  
**Public Finance and International Trade**

**Full Marks - 80**

**Time - 3 Hrs**

Candidates will have to answer **four** questions out of total of **eight** questions.

**Question no. 1 will be compulsory**, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

**Unit 1: Nature and Scope of Public Finance**

- 1.1: Meaning and Scope of Public Finance; Public Finance and Private Finance.
- 1.2: Principle of Maximum Social Advantage.

**Unit 2: Public Revenue and Expenditure**

- 2.1: Sources of Public Revenue.
- 2.2: Taxation: Meaning and Classification.
- 2.3: Impact and Incidence of Taxes; Effects of Taxation.
- 2.4: Meaning, Classification and Principle of Public Expenditure.
- 2.5: Effects of Public Expenditure.

**Unit 3: International Trade**

- 3.1: International Economics: Definition, Nature and Importance.
- 3.2: Inter-Regional and International Trade.
- 3.3: Gains from Trade: Their Measurement and Distribution.
- 3.4: Theory of Comparative Costs; Heckcher-Ohlin Theory.
- 3.5: Free Trade vs. Protection.

**Unit 4: International Financial Institutions**

- 4.1: I.M.F. and I.B.R.D.: Their Objectives and Functions.

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W.e.f Session -2020-23 and upward

**VINOBA BHAVE UNIVERSITY, HAZARIBAG**

**CBCS SYLLABUS FOR PHILOSOPHY**

**BACHELOR OF ARTS (MINOR)**

Generic Elective Paper I/III General Paper I/III

Paper code – PHI-H-GE/GEN101T/PHI-GE/GEN-103T

**Ancient Indian Philosophy**

Semester 1<sup>st</sup> & Semester III Generic Elective paper I/III General Paper I/III Credits: 05 (Theory) + 01 (Tutorial)= Total 06 Credits Marks: 80 (Theory) = 20 (Internal Assessment) = Total 100 Marks, Duration: 03 Hour There shall be 09 questions each of equal value out of which 05 questions are to be answered. Question No. 01 (subdivided into 08 MCQs each bearing 02 marks) will be compulsory. Rest 08 questions will be of descriptive and analytical nature out of which 04 questions are required to be answered.

Unit I :	Meaning and Nature of Philosophy, Chief characteristics of Indian Philosophy, Charvaka : Epistemology and Ethics.	01 Credit
Unit II :	Jainism : Concept of Jiva, Bondage and Liberation; Buddhism: The Four Noble Truths, Theory of No-soul.	01 Credit
Unit III :	Nyaya: Theory of Pramanas, The idea of God and Proofs for the existence of God; Vaisesika: Padarthas, Dravya, Guna, Karma, Samanya, Visesa, Samavaya, Abhava, Pramanuvada.	01 Credit
Unit IV :	Samkhya: Causation theory (Satkaryavada), Prakriti, Arguments for its Existence, Purusa, Arguments for its existence, Vikasvada, Yoga: Citta and cittavritti, Eightfold path, God.	01 Credit
Unit V :	Purvamimansa : Pramanyavada, Advaita Vedanta: Nirguna Brahman, Vivartvada, Maya; Visistadvaita: Saguna Brahman, Refutation of Mayavada.	01 Credit

**Suggested Reading:**

Sinha, H. P.	Bhartiya Darshan ki Ruprekha
Singh, B. N.	Bhartiya Darshan
Nigam, Shobha	Bhartiya Darshan
Sharma, C. D.	Bhartiya Darshan Aalochan Auranushilan
Chatterjee & Dutta	Bhartiya Darshan
Sharma, C. D.	A Critical Survey of Indian Philosophy
Chatterjee & Dutta	An Introduction to Indian Philosophy

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22.04.22*

**Head**  
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*Prakash  
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(Ext Expert)*

*Yamini Sahay  
26.04.22*

*(Randeep Pansari)  
22/04/2022  
(Dr. Jayarakesh Ranidas)  
22/04/2022*

*Abhankar  
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VKnijju  
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W.e.f. Session 2020-23 and Upward

Generic Elective Paper II/IV General Paper II/IV

Paper code – PHI-GE/GEN/204T/PHI-GE/GEN-202T

### History of Western Philosophy

Semester II and IV, Generic Elective Paper II/IV, General Paper II/IV, Credits: 05 (Theory) + 01 (Tutorial)  
= Total 06 Credits Marks: 80 (Theory) + 20 (Internal Assessment) = total 100 Marks, Duration: 03 Hours

There shall be 09 questions each of equal value out of which 05 questions are to be answered. Question No. 01 (subdivided into 08 MCQs each bearing 02 marks) will be compulsory. Rest 08 questions will be of descriptive and analytical nature out of which 04 questions are required to be answered.

Unit I : Plato: Theory of Ideas; Aristotle: Matter and Form; 01 Credit

Unit II : Descartes: Method of doubt, Cogito ergo sum, Mind and Matter, God;

Spinoza : Substance, Attributes and Modes, Pantheism. 01 Credit

Unit III : Leibnitz: Monadology, Doctrine of Pre-established Harmony; Locke:

Refutation of innate ideas, Primary and Secondary qualities. 01 Credit

Unit IV : Berkeley: esse est percipi; Hume: Impressions and ideas, Skepticism. 01 Credit

Unit V : Kant: Synthetic a priori judgment, Space and Time, Categories of Understanding,

Phenomena and Noumena. 01 Credit

### Suggested Text :

Nigam, Shobha Paschatya Darshan Sampraday

Singh, B.N. Paschatya Darshan

Verma, A.K. Paschatya Darshan

Sharma, C.D. Paschatya Darshan

Masih, Yakub Paschatya Darshan Ka Samikshatmak Itihas

Nigam, Shobha Paschatya Darshan Ka Etihasik Sarvekshana

(Pundeep Basu)

22/04/2022

(Dr. Jayaprakash Ranidus)

22/04/2022  
Vikas  
22.04.22

26-04-22  
(Ex. Expert)

Yamini Sahay  
26.04.22

*Shobha*  
22.04.22  
Head  
Univ. Dept. of Philosophy  
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*Shobha*

**Indian Metaphysics & Epistemology****Semester III, General Paper III, Credits : 05 (Theory) + 01 (Tutorial) = Total 06 Credits****Marks : 80 (Theory) + 20 (Internal Assessment) = Total 100 Marks, Duration : 03 Hours**

There shall be 09 questions each of equal value out of which 05 questions are to be answered.

Question No. 01 (subdivided into 08 MCQs each bearing 02 marks) will be compulsory. Rest 08

Questions will be of descriptive and analytical nature out of which 04 questions are required to be answered.

Unit I : Nature of Cognition: Valid and Invalid Cognition, Prama, Definitions and

Varieties of Pramana. 01 Credit

Unit II : Pramanya and Prameya 01 Credit

Unit III: Theories of Perceptual error (Khyativad). 01 Credit

Unit IV: Causality : Parinamvada, Aarambhvada, Vivartvada, Pratityasamutpatpad 01 Credit

Unit V: Samanya; Nyaya and Buddhist Debate, The Self in Indian Schools. 01 Credit

**Suggested Text :**

Sinha, Neelima Bhartiya Gyanmimansa

Tiwary, K. N. Bhartiya Tarkshastra Prichaya

Jha, Anirudha Bhartiya Tarkbodhnnyay

Singh, B. N. Praman Parichaya

Vijalman, S. Bhartiya Nyayshastra

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22.04.22***Head**  
Univ. Dept. of Philosophy  
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Hazaribag (Jharkhand)

**Western Metaphysics & Epistemology****Semester IV, General Paper IV, Credits: 05 (Theory) + 01 (Tutorial) = Total 06 Credits****Marks: 80 (Theory) + 20 (Internal Assessment)= Total 100 Marks, Duration: 03 Hours**

There shall be 09 questions each of equal value out of which 05 questions are to be answered.

Question No. 01 (subdivided into 08 MCQs each bearing 02 marks) will be compulsory. Rest 08

Questions will be of descriptive and analytical nature out of which 04 questions are required to be Answered.

**Unit I : Definition and kinds of knowledge, Propositional and Non-propositional**

Knowledge, Necessary and Sufficient Conditions of Knowledge. 01 Credit

**Unit II : Theories of Knowledge; Rationalism, Empiricism and Criticism, a Priori and**

A Posteriori Knowledge, Analytic & Synthetic Knowledge, The Problem of

Synthetic a Priori Knowledge. 01 Credit

**Unit III : Theories of Truth; Correspondence, Coherence, Pragmatic.** 01 Credit

**Unit IV : Nature of Metaphysics; Substance in Western Philosophy, Time & Space**

Of Kant. 01 Credit

**Unit V : Theories of Causation : Aristotle, Mill and Hume; Mind-Body Relation**

According to Rationalists. 01 Credit

**Suggested Text :**

Tiwary, K. N. Tatvamimansa & Gyanmimansa

Verma, A. K. Tatvamimansa & Gyanmimansa

Prasad, Rajendra Darshanshashtrakiruprekha

Mishra, H. N. Gyanmimansisyaprashna

*Shanti  
22-04-22*

**Head**

Univ. Dept. of Philosophy  
Vinoba Bhave University  
Hazaribag (Jharkhand)

## **Abnormal Psychology**

**Time: 3 Hours**

**Full Marks: 60**

(for end semester)

*Eight questions of equal value (i.e. 15 marks each) will be set, out of which four questions are to be answered. Question no. 1 will be compulsory comprising 15 objective type questions covering the entire syllabus.*

### **Unit I. Introduction:**

- a) Nature and definition.
- b) Difference between Normal and abnormal
- c) Criteria of abnormality.

### **Unit II. Clinical Status:**

- a) Difference between psychosis and psychoneurosis.
- b) Anxiety Disorder- symptoms, etiology.
- c) Conversion Disorder (Hysteria) symptoms etiology.
- d) Schizophrenia, symptoms and causes

### **Unit III. Alcoholism and Drug Addiction**

- a) Nature and definition.
- b) Causes
- c) Rehabilitation.

### **Unit IV. Mental Retardation:**

- a) Nature, types, Characterisits.
- b) Causes
- c) Rehabilitation

*Neena Jagjail  
26/04/2022 (R.V)  
N. Singh  
26/04/2022  
J. K. S.  
26/04/2022  
G. S. C. C.  
26/04/2022*

## **Reading List**

Ohman TF and Emery R.E. (1995). Abnormal Psychology. New Delhi: Prentice Hill of India Pvt Ltd.

Adams, HE and Sutkar, P.B. (1984).Comprehensive Hand Book of Psychopathology.

Razaque, Sadique et al. (2012). New Horizons in stress management. New Delhi: Ayushman publication Pvt Ltd.

Singh, A.K. (2002). Adhunik Asamanya Manovigyan. Patna: Motilal Banarsidas.

Q.G. Alam and Srivastava, A. (2012). Apsmanya Manovigyan Azamgarh: Motilal Banarsidas.

## **Social Psychology**

**Time: 3 Hours**

**Full Marks: 60**

(for end semester)

*Eight questions of equal value (i.e. 15 marks each) will be set, out of which four questions are to be answered. Question no. 1 will be compulsory comprising 15 objective type questions covering the entire syllabus.*

### **Unit I. Introduction :**

- a) Nature and Definition.
- b) Scope.
- c) Utility.

### **Unit II. Leadership :**

- a) Nature and Definition.
- b) Type and Traits.
- c) Functions of leader.
- d) Difference Between Democratic and Authoritarian leadership.

### **Unit III. Public Opinion :**

- a) Definition.
- b) Factors.
- c) Role of media in Public Opinion.
- d) Measurement of Public Opinion.

### **Unit IV. Social Tension :**

- a) Nature.
- b) Causes.
- c) Remedies.

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26/4/2022  
26/4/2022 (S.T.C.L)*

### **Reading List**

- Baron, R.A and Byrne, D. (2000). Social Psychology. New Delhi: Prentice Hall.
- Pandey, J. (Ed.) (1998). Psychology in India: The state of the art. Basic and applied social psychology. (Vol.II). New Delhi: Sage.
- Secord and Backman (1978). Social Psychology. New York: McGraw Hill.
- Singh, A.K. (2002). Samaj Manovigyan Ki Roop Rekha. Patna: Motilal Banarsidas  
(In Hindi).
- Suleman, M.K. (1991). Adhunik Samaj Manovigyan. Patna: Shukla Book Depot  
(In Hindi).

## Chemistry

### Syllabus for Undergraduate Generic Elective (GE) Papers

#### Paper 1(Theory)

**Answer any four Questions selecting one question from each group.**

**Question no. one is compulsory which will be of objective type from all three groups.**

#### Group A (Inorganic Chemistry)

1. **Atomic structure:** Bohr's theory and its limitations, dual behaviour of matter and radiation, de-Broglie's relation, Heisenberg Uncertainty principle. Hydrogen atom spectra, Quantum numbers, rules for filling electrons in orbitals and electronic configuration of atoms.
2. **Chemical Bonding:**
  - a) General characteristics of ionic bonding, lattice energy, Born-Haber cycle and Fajan's rule.
  - b) Shape and structure of some inorganic molecules and ions on the basis of VSEPR theory and hybridisation.

#### Group B (Organic Chemistry)

1. **Basics of organic chemistry:**
  - a) Inductive effect, Electrometric effect and hyperconjugation
  - b) Homolytic and heterolytic fission of covalent bonds, Nucleophiles, Electrophiles and Free radicals
2. **Hydrocarbons:** Aliphatic and Aromatic hydrocarbons-alkanes, alkenes, alkynes and benzene

#### Group C (Physical Chemistry)

1. **Kinetic Theory of Gases:** Postulates of kinetic theory of gases, Derivation of kinetic gas equation, Deviation from ideal gas behaviour- van der Waals equation.
2. **Equilibrium:**
  - a) **Chemical equilibrium:** Law of mass action and its application in treatment of reversible chemical reactions,  $K_p$ ,  $K_c$ ,  $K_x$  and their interrelationships, Le-Chatelier's principle
  - b) **Ionic equilibrium:** Weak and Strong electrolytes, degree of dissociation, ionisation constants of weak acids and bases, pH and buffer solution

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## GE 1 Practical

One practical is to be performed in examination among the following

1. Estimation of sodium carbonate and sodium bicarbonate present in a mixture.
2. Estimation of oxalic acid using standard KMnO<sub>4</sub> solution.
3. Estimation of ferrous ion using standard KMnO<sub>4</sub> solution.
4. Estimation of Cu<sup>2+</sup> ion iodometrically.
5. Detection of functional group present in the given organic compound (monofunctional).

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## Paper 2

Answer any four Questions selecting one question from each group.

Question no. one is compulsory which will be of objective type from all three groups.

### Group A (Inorganic Chemistry)

- Periodicity of elements:** Atomic radius, Ionic radius, Ionisation energy, Electron affinity, electronegativity and their variation in the periodic table.
- Basics of coordination chemistry:** Complex salt and double salt, Classification and nomenclature of coordination compounds, Werner's coordination theory, Sidgwick's electronic interpretation of coordination, EAN rule

### Group B (Organic Chemistry)

- Alkyl and aryl halides:** General methods of preparation, properties and uses of alkyl and aryl halides
- Alcohols and phenols:** Classification of alcohols, General methods of preparation, properties and uses of alcohols, Distinction among primary, secondary and tertiary alcohols  
General methods of preparation and important reactions of phenol, acidic character of phenols

### Group C (Physical Chemistry)

- Solutions:** Strength of solutions and various terms to express the concentration of solution, Colligative properties of solutions-relative lowering of vapour pressure, elevation of boiling point, depression of freezing point and osmotic pressure, colligative properties of electrolytes and van't Hoff factor.
- Thermodynamics and thermochemistry:** System, surroundings, isolated, open and closed systems, isothermal, isobaric, isochoric, adiabatic, reversible and irreversible processes, Internal energy, Enthalpy, First law of thermodynamics.  
Enthalpy of formation, enthalpy of phase transformations, Standard enthalpy of reaction and Hess's law.

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## GE 2 Practical

One practical is to be performed in examination among the following

1. Purification of organic compounds
2. Determination of melting point and boiling point
3. Preparation of following organic compounds :
  - a) Benzoic acid from benzaldehyde
  - b) Benzoic acid from ethyl benzoate
  - c) Acetanilide from aniline
  - d) m- Dinitrobenzene from nitrobenzene
4. Preparation of buffer solution
5. Measurement of pH of different solutions using pH meter

Hariharan  
25/04/2022 ~~OK~~ ~~25/04/2022~~ ~~25/04/2022~~ ~~25/04/2022~~ ~~25/04/2022~~

Kishan  
25/04/2022

Sukanya  
25/04/2022

Minal  
26/04/2022

## Chemistry

### Syllabus for Undergraduate Generic Elective (GE) Papers

#### Paper 1(Theory)

**Answer any four Questions selecting one question from each group.**

**Question no. one is compulsory which will be of objective type from all three groups.**

#### Group A (Inorganic Chemistry)

1. **Atomic structure:** Bohr's theory and its limitations, dual behaviour of matter and radiation, de-Broglie's relation, Heisenberg Uncertainty principle. Hydrogen atom spectra, Quantum numbers, rules for filling electrons in orbitals and electronic configuration of atoms.
2. **Chemical Bonding:**
  - a) General characteristics of ionic bonding, lattice energy, Born-Haber cycle and Fajan's rule.
  - b) Shape and structure of some inorganic molecules and ions on the basis of VSEPR theory and hybridisation.

#### Group B (Organic Chemistry)

1. **Basics of organic chemistry:**
  - a) Inductive effect, Electrometric effect and hyperconjugation
  - b) Homolytic and heterolytic fission of covalent bonds, Nucleophiles, Electrophiles and Free radicals
2. **Hydrocarbons:** Aliphatic and Aromatic hydrocarbons-alkanes, alkenes, alkynes and benzene

#### Group C (Physical Chemistry)

1. **Kinetic Theory of Gases:** Postulates of kinetic theory of gases, Derivation of kinetic gas equation, Deviation from ideal gas behaviour- van der Waals equation.
2. **Equilibrium:**
  - a) **Chemical equilibrium:** Law of mass action and its application in treatment of reversible chemical reactions,  $K_p$ ,  $K_c$ ,  $K_x$  and their interrelationships, Le-Chatelier's principle
  - b) **Ionic equilibrium:** Weak and Strong electrolytes, degree of dissociation, ionisation constants of weak acids and bases, pH and buffer solution

GE 1 Practical

One practical is to be performed in examination among the following

1. Estimation of sodium carbonate and sodium bicarbonate present in a mixture.
  2. Estimation of oxalic acid using standard  $\text{KMnO}_4$  solution.
  3. Estimation of ferrous ion using standard  $\text{KMnO}_4$  solution.
  4. Estimation of  $\text{Cu}^{2+}$  ion iodometrically.
  5. Detection of functional group present in the given organic compound (monofunctional).

~~Amur leopard~~ 25.04.22 ~~fish~~ 25.04.22 ~~deer~~ 25.04.22  
~~Red Fox~~ 25.04.22 ~~Sky~~ 25.04.22 ~~dog~~ 25.04.22  
~~Koko~~ 25.04.22

## Paper 2 (Theory)

**Answer any four Questions selecting one question from each group.**

**Question no. one is compulsory which will be of objective type from all three groups.**

## **Group A (Inorganic Chemistry)**

- 1. Periodicity of elements:** Atomic radius, Ionic radius, Ionisation energy, Electron affinity, electronegativity and their variation in the periodic table.
  - 2. Basics of coordination chemistry:** Complex salt and double salt, Classification and nomenclature of coordination compounds, Werner's coordination theory, Sidgwick's electronic interpretation of coordination, EAN rule

## **Group B (Organic Chemistry)**

1. **Alkyl and aryl halides:** General methods of preparation, properties and uses of alkyl and aryl halides
  2. **Alcohols and phenols:** Classification of alcohols, General methods of preparation, properties and uses of alcohols, Distinction among primary, secondary and tertiary alcohols  
General methods of preparation and important reactions of phenol, acidic character of phenols

## **Group C (Physical Chemistry)**

- 1. Solutions:** Strength of solutions and various terms to express the concentration of solution, Colligative properties of solutions-relative lowering of vapour pressure, elevation of boiling point, depression of freezing point and osmotic pressure, colligative properties of electrolytes and van't Hoff factor.
  - 2. Thermodynamics and thermochemistry:** System, surroundings, isolated, open and closed systems, isothermal, isobaric, isochoric, adiabatic, reversible and irreversible processes, Internal energy, Enthalpy, First law of thermodynamics.  
Enthalpy of formation, enthalpy of phase transformations, Standard enthalpy of reaction and Hess's law.

## enthalpy of reaction and Hess's law.

## GE 2 Practical

One practical is to be performed in examination among the following

1. Purification of organic compounds
2. Determination of melting point and boiling point
3. Preparation of following organic compounds :
  - a) Benzoic acid from benzaldehyde
  - b) Benzoic acid from ethyl benzoate
  - c) Acetanilide from aniline
  - d) m- Dinitrobenzene from nitrobenzene
4. Preparation of buffer solution
5. Measurement of pH of different solutions using pH meter

~~Abhishek~~ ~~25/04/22~~ ~~Pranav~~ ~~25/04/22~~ ~~Shrey~~ ~~25/04/22~~ ~~Jaswan~~ ~~25/04/22~~  
~~Hans~~ ~~25/04/22~~ ~~Sksly~~ ~~25/04/22~~

**VINOBA BHAVE UNIVERSITY, HAZARIBAG**

**COURSE OF CONTENT OF HISTORY**

**GENERIC COURSE**

**G.E-1 ANCIENT INDIAN HISTORY**

प्राचीन भारतीय इतिहास

Teaching hours 90 credit hours

No of Credit - 5+1

1. Sources of Ancient Indian History.  
प्राचीन भारतीय इतिहास के श्रोत
2. Harappan Civilization: Origin, Town Planing.  
हड्पा सभ्यता : उत्पत्ति, नगर योजना
3. The Vedic Civilization: Society, Economy, Polity and Religion.  
वैदिक सभ्यता सामाजिक, आर्थिक, राजनीतिक एवं धार्मिक स्थिति
4. Religious Movements: Jainism and Buddhism.  
धार्मिक आन्दोलन : जैनधर्म एवं बौद्ध धर्म
5. Mauryan Empire  
मौर्य साम्राज्य
- a. Chandragupta Maurya : Life and achievement  
चन्द्रगुप्त मौर्य : जीवनी एवं उपलब्धियाँ
- b. Ashoka : Life and achievement  
अशोक : जीवनी एवं उपलब्धियाँ
- c. Mauryan Administration  
मौर्य प्रशासन
6. Kanishka  
कनिष्ठ
7. Gupta Age: Samundragupta, Golden Age.  
गुप्त युग : समुन्द्रगुप्त, स्वर्ण युग
8. Harshavardhana : Conquest and Administration  
हर्षवर्धन : विजय एवं प्रशासन
9. Cholas  
चोल

1. External Exam - 80+5 Credit

Question -  $4 \times 15 = 60$

$2 \times 5 = 10$

$10 \times 1 = 10$

80

2. Internal Exam - 20+1 Credit

Mark Internal Exam - 15

Attendance & Seminar and Other Activities - 05

20

Total Marks - 100

Acknowledged  
22/04/2022

Head  
University Department of History  
Vinoba Bhave University, Hazaribag

VINOBA BHAVE UNIVERSITY, HAZARIBAG

COURSE OF CONTENT OF HISTORY

GENERIC COURSE

G. E -2 MEDIEVAL AND MODERN INDIAN HISTORY

मध्यकालीन भारत एवं आधुनिक भारत का इतिहास

Teaching hours 90 credit hours

No of Credit - 5+1

I - Establishment of Turkish rule in India :

भारत में तुर्क शासन की स्थापना

- A. Iltutmish – इल्तुतमिश
- B. Balban – बलबन
- C. Alauddin Khilji : Administration , Revenue and Market Policy.  
अलाउद्दीन खिलजी : प्रशासन, राजस्व एवं बाजार नीति
- D. Muhammad-Bin-Tughlaq : Character and Policy.  
मुहम्मद बिन तुगलक : चरित्र एवं नीति

II - Shershah : Administration and Revenue Policy

शेरशाह : प्रशासन एवं राजस्व नीति

III - Mughal – मुगल

- A. Babar : Conqueror empire builder and Humayun – Difficulties and failure  
बाबर : विजेता एवं साम्राज्य निर्माता के रूप में हुमायूँ -कठिनाइयाँ एवं पतन
- B. Akbar : Religious Policy and Rajput Policy  
अकबर धार्मिक नीति एवं राजपूत नीति

IV - Shivaji : Early life, Conquest and Administration

शिवाजी : प्रारंभिक जीवन विजय एवं प्रशासन

V - Rise of British Power in Bengal

बंगाल में ब्रिटिश शासन का उदय

- A. Battle of Plassey – पलासी की लड़ाई
- B. Battle of Buxar – बक्सर का युद्ध

VI - Revolt of 1857 : Causes, Nature, Result and Impact

1857 का विद्रोह : कारण, स्वरूप, परिणाम एवं प्रभाव

1. External Exam - 80+5 Credit

Question -  $4 \times 15 = 60$

$$2 \times 5 = 10$$

$$\underline{10 \times 1 = 10}$$

$$\underline{80}$$

2. Internal Exam - 20+1 Credit

Mark Internal Exam

- 15

Attendance & Seminar and Other Activities - 05

20

Total Marks - 100

*Arclandal  
22/04/2022*  
Head  
University Department of History  
Vinoba Bhave University, Hazaribag

Revised Courses of Study of GE Paper I + II  
for V.G. Political Science Course  
of Vinoba Bhave University,  
Hazaribag

#### FIRST SEMESTER

PAPER 1-3	SUBJECT CODE Pol. Sc.- GE-1	AN INTRODUCTION TO POLITICAL THEORY COURSE CONTENT	TEACHING HOURS 90 Credit Hours	NO OF CREDIT 05+01
01.	Nature and Significance of Political Theory			
02.	Classical Tradition – Meaning, Characteristics, Importance and Limitations.			
03.	Modern Tradition – Meaning, Characteristics, Importance and Limitations.			
04.	Origin and Development of State System			
05.	Sovereignty – Monism and Pluralism.			
06.	Justice and Equality			
07.	Rights and Liberty			

#### SECOND SEMESTER

PAPER 2-3	SUBJECT CODE Pol. Sc.-GE-2	INDIAN GOVERNMENT AND POLITICS COURSE CONTENT	TEACHING HOURS 90 Credit Hours	NO OF CREDIT 05+01
01.	Preamble and Constitution: Salient Features			
02.	Fundamental Rights and Duties			
03.	Directive Principles of State Policy			
04.	Union Executive: President and Prime Minister			
05.	Union Legislature: Lok Sabha and Rajya Sabha			
06.	State Government: Governor and Chief Minister			
07.	Supreme Court and Judicial Activism			

18

Ganod Kumar

26/04/2022

Okumar

26/4/2022

Deem.  
26.04.2022

Head

University Department of Political Science  
Vinoba Bhave University  
Hazaribag (Jharkhand)

Alok Kumar  
26/04/2022

Benn  
26/4/22

Abusipw  
26/4/22

Sukalyan Misra  
26/04/2022

स्नातक हिन्दी  
सामान्य वैकल्पिक (G.E)

प्रथम पत्र (प्रथम-तृतीय समसत्र)

विषय कोड—  
क्रेडिट—05+01

कुल अंक—80, क्रेडिट—05  
आंतरिक मूर्ति—20, क्रेडिट—01

आधुनिक काल

इकाई—I	हिन्दी नाटक का उद्भव और विकास।	—02 क्रेडिट
इकाई-II	हिन्दी उपन्यास का उद्भव और विकास।	—01 क्रेडिट
इकाई-III	हिन्दी कहानी का उद्भव और विकास।	—01 क्रेडिट
इकाई-IV	हिन्दी निबंध का उद्भव और विकास।	—01 क्रेडिट
	पुस्तक— 1. हिन्दी कहानी का विकास, मधुरेश, राजकमल प्रकाशन, नई दिल्ली 2. हिन्दी नाटक उद्भव और विकास, डॉ दशरथ ओझा, राजपाल एंड संस 3. हिन्दी निबंध, प्रभाकर माचवे, राजकमल प्रकाशन, नई दिल्ली	

सामान्य निर्देश/अंक विभाजन :

- I. प्रश्न—पत्र की अवधि तीन खंडों की होगी।
- II. प्रश्न—पत्र के तीन खंड होंगे जो क्रमशः दीर्घउत्तरीय, लघूउत्तरीय एवं वस्तुनिष्ठ प्रकार के होंगे।
- III. दिये गये खंड 'क' से दो प्रश्न के उत्तर अपेक्षित हैं।
- IV. दिये गये खंड 'ख' से दो लघूउत्तरीय प्रश्न के उत्तर अपेक्षित हैं।
- V. वस्तुनिष्ठ प्रश्नों से जुड़ा तीसरा खंड 'ग' अनिवार्य होगा।

खंड 'क' —	20 X 02 = 40 अंक
खंड 'ख' —	10 X 02 = 20 अंक
खंड 'ग' वस्तुनिष्ठ (अनिवार्य) —	02 X 10 = 20 अंक
	80 अंक
आंतरिक मूल्यांकन(एक लिखित) —	15 अंक
सतत मूल्यांकन सह उपरिधति —	05 अंक
कुल	100 अंक

21.04.2022

21.04.22  
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21.04.22  
(डॉ विपिन ऊमर)  
(वाहन विशेषज्ञ)  
B.H.U  
21.04.22  
21.04.22

21.04.22  
21.04.22  
वायुस्नातकोक्तर हिन्दी विभाग  
विनोबा भावे विश्वविद्यालय  
हजारीबाग (झारखण्ड)

## स्नातक हिन्दी सामान्य वैकल्पिक (G.E)

### द्वितीय पत्र (द्वितीय-चतुर्थ समसत्र)

विषय कोड-

क्रेडिट -05+01

कुल अंक-80, क्रेडिट -05  
आंतरिक मू0-20, क्रेडिट -01

### राजभाषा व प्रयोजनमूलक हिन्दी

इकाई-I	हिन्दी का उद्भव और विकास।	-01 क्रेडिट
इकाई-II	हिन्दी की बोलियाँ - पूर्वी और पश्चिमी हिन्दी।	-01 क्रेडिट
इकाई-III	राष्ट्रभाषा, राजभाषा के रूप में हिन्दी।	-01 क्रेडिट
इकाई-IV	प्रयोजनमूलक हिन्दी, पारिमाणिक शब्दावली, अनुवाद प्रक्रिया	-02 क्रेडिट
	पुस्तक- 1. हिन्दी भाषा, डॉ हरदेव बाहरी, अभिव्यक्ति प्रकाशन, नई दिल्ली 2. प्रयोजनमूलक हिन्दी : सिद्धांत और प्रयोग, दंगल झाल्टे, वाणी प्रकाशन, नई दिल्ली	

### सामान्य निर्देश / अंक विभाजन :

- I. प्रश्न-पत्र की अवधि तीन घंटे की होगी।
- II. प्रश्न-पत्र के तीन खंड होंगे जो क्रमशः दीर्घउत्तरीय, लघूत्तरीय एवं वस्तुनिष्ठ प्रकार के होंगे।
- III. दिये गये खंड 'क' से दो प्रश्न के उत्तर अपेक्षित हैं।
- IV. दिये गये खंड 'ख' से दो लघूत्तरीय प्रश्न के उत्तर अपेक्षित हैं।
- V. वस्तुनिष्ठ प्रश्नों से जुड़ा तीसरा खंड 'ग' अनिवार्य होगा।

खंड 'क' -	$20 \times 02 = 40$ अंक
खंड 'ख' -	$10 \times 02 = 20$ अंक
खंड 'ग' वस्तुनिष्ठ (अनिवार्य) -	$02 \times 10 = 20$ अंक
	<hr/> $80$ अंक
आंतरिक मूल्यांकन(एक लिखित) -	15 अंक
सतत मूल्यांकन सह उपरिधिति -	<hr/> 05 अंक
	कुल <hr/> 100 अंक

21.04.2022

21/04/22

(वाणी विश्वविद्यालय)  
(डॉ. विपिन कुमार)

21/04/22  
वाणी स्नातकोत्तर हिन्दी विभाग  
दिनेबा भाषा विश्वविद्यालय  
ज्ञारीबग (झारखण्ड)

# **SYLLABUS FOR THREE YEARS DEGREE COURSE UNDER CHOICE-BASED CREDIT SYSTEM**

**For B.A. (Other than Urdu) Hons**

**PAPER-I**

**Code-Urdu-H-GE-104**

**Total Credit-06**

**Total Marks: 100**

**Theory- 05**

**End Sem Exam: 80**

**Tutorial-01**

**Internal Assesment: 20**

**Question paper will be in three parts:**

**Part A: Question No, 1 will be objective (Multiple choice or fill in the blanks types) which will be compulsory. ( $10 \times 1 = 10$ )**

**Part B: There shall be six (6) questions in this part, out of which three questions to be answered. All questions will be short answer type ( $10 \times 3 = 30$ )**

**Part C: There will be four questions out of which two questions to be answered. All questions will be subjective & descriptive. ( $2 \times 20 = 40$ )**

**Title : Urdu ki Aham Sheri Asnaaf**

غزل: تعریف اور صنی خصوصیات	Unit : 1
مشتوی: تعریف اور صنی خصوصیات	Unit : 2
قصیدہ: تعریف اور صنی خصوصیات	Unit : 3
مرثیہ: تعریف اور صنی خصوصیات	Unit : 4

**Books for reference:**

۱. اردو کی شعری اصناف : ڈاکٹر شیویہ ترپاٹھی
۲. غزل اور درس غزل : اختر انصاری
۳. غزل کے جدید رجحانات : خالد علوی
۴. اردو مشتوی کا ارتقاء : عبدالقار دسروری
۵. اردو کی تین مشتویاں : خان رشید
۶. اردو میں قصیدہ نگاری : ابو محمد سحر
۷. روح انیس : مسعود حسین رضوی ادیب
۸. موازنہ انیس و دیر : شبیل نعمانی

*Zafar 26/4/22*

*Farisah 26/4/22*

*Mawyan 26/4/22*

*Rehman 26/4/22*

# **SYLLABUS FOR THREE YEARS DEGREE COURSE UNDER CHOICE-BASED CREDIT SYSTEM**

**For B.A. (Other than Urdu) Hons**

**PAPER-II**

**Code-Urdu-H-GE-204**

**Total Credit-06**

**Total Marks: 100**

**Theory- 05**

**End Sem Exam: 80**

**Tutorial-01**

**Internal Assessment: 20**

**Question paper will be in three parts:**

**Part A:** Question No, 1 will be objective (Multiple choice or fill in the blanks types) which will be compulsory. ( $10 \times 1 = 10$ )

**Part B:** There shall be six (6) questions in this part, out of which three questions to be answered. All questions will be short answer type ( $10 \times 3 = 30$ )

**Part C:** There will be four questions out of which two questions to be answered. All questions will be subjective & descriptive. ( $2 \times 20 = 40$ )

**Title : Urdu ki Aham Nasri Asnaaf**

داستان: تعریف اور صنفی خصوصیات	Unit : 1
نالوں: تعریف اور صنفی خصوصیات	Unit : 2
افسانہ: تعریف اور صنفی خصوصیات	Unit : 3
ڈرامہ: تعریف اور صنفی خصوصیات	Unit : 4

**Books for reference:**

۱. اصناف ادب اردو : ڈاکٹر قمر نیس، خلیق انجمن
۲. اردو کی نشری داستانیں : گیان چند جیں
۳. نشری داستانوں کا سفر : صیغرا فراہم
۴. اردو نالوں کا فن : سہیل بخاری
۵. بیسویں صدی میں اردو نالوں : یوسف سرست
۶. اردو افسانہ روایت اور مسائل : پروفیسر گوپی چند نارنگ
۷. جدید اردو افسانہ : شہزاد منظر
۸. ڈرامہ فن اور روایت : ڈاکٹر محمد شاہد حسین

*Haseeb*  
26/04/22

*Haseeb*  
26/04/22

*Munir*  
26/04/22

*Munir*  
26/04/22

*Qasim*  
26/04/22



**UNIVERSITY DEPARTMENT OF PHYSICS**  
**VINOBA BHAVE UNIVERSITY**  
Hazaribag - 825301 (Jharkhand)

Ref. Phy/41/2022

Date 22.04.2022

To,  
The Honourable Pro-Vice-Chancellor,  
V.B. University, Hazaribag

Sub : Upgrading the GE Courses for Physics after B.O.C.S. meeting held in 21/04/2022

Sir,

Respectfully, I have to inform you that as per the instruction in memo no.  
VBU/RO/513/2009/Vol.III/1038/22 dt.- 20.04.2022. I herewith enclose the modified syllabus for  
UG Semester - I to IV students.

The syllabus for theory and Practical its Credit points, distribution of marks in mid Semester  
and end Semester is included here. The instruction for pattern of questions for setters is also  
included.

This is for your kind perusal.

Thanking you

Yours faithfully,

Head.  
Dept. of Physics  
V.B. Univ., Hazaribag

Encl:- i) Minutes of the B.O.C.S. meeting held on 21.04.2022

- ii) Necessary instructions for distribution of marks as per earlier regulation approved by  
Academic Council.

# PHYSICS

(1)

Rathore

Syllabus: (PHY-G.E.-IT) Mechanics, Heat and Thermodynamics.

B.Sc. (Gen)

(04 credit, 60 Lectures)

Paper-I

## MECHANICS

Elasticity: Relation between elastic constants, Searle's experiment. (5 Lectures)

Fluid motion: Stream line and turbulent motion, Viscosity, coefficient of viscosity, terminal velocity, Poiseuille's Equation for flow of a liquid through a capillary tube, Mayer's equation. (15 Lectures)

Surface tension: Surface tension, surface energy, Angle of contact, Quinckie's method. (10 Lectures)

Special theory of relativity: Michelson-Morley experiment and its negative result, Variation of mass with velocity, Postulates of special theory of relativity and Lorentz transformation. (10 Lectures)

## WAVES

Free, forced and damped oscillation, resonance, Newton's formula for velocity of sound and Laplace's correction. (10 Lectures)

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(2)

Kinetic theory of gases: Maxwell's velocity distribution law, Degree of freedom, Law of equipartition of energy (5 lectures)

Thermodynamics: Zeroth law of Thermodynamics, 1st law of Thermodynamics, Work done during isothermal and adiabatic processes (5 lectures)

### Reference Books

1. Mechanics — D.S. Mather
2. Physics — Resnick Halliday and Walker 9/e, 2010 Wiley
3. Heat and Thermodynamics — P. K. Chakrabarty.

### PHY(G.E) - I.P. (PRACTICAL) (02 credits)

1. Measurement of length (or diameter) using Vernier calipers, screw gauge and travelling microscope.
2. To determine the Elastic constant of a wire by Searle's method.
3. To determine g by Bar pendulum.
4. Determination of  $\gamma$  by Beam Bending.

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Mr  
21-4-22

Appl  
21/04/22 Due  
21/4/22

Abd  
21/4/22

# PHYSICS

Dr. 21/4/22  
Rajesh Kumar

(3)

## Paper-II

PHY-G.E (2T);

### Electricity and magnetism; Quantum Mechanics

Electrostatics:

(04 credits, 60 lectures)

Conservative nature of electrostatic field, Electrostatic potential, Laplace's and Poisson's equations and its solution in Cartesian coordinates, Gauss's law in differential and integral form. (15 lectures)

Magnetic Properties of matter: Magnetization vector ( $M$ ), Magnetic intensity ( $H$ ), Magnetic susceptibility and permeability (5 lectures)

### Electrical circuits:

Complex reactance and impedance, Series and parallel LCR circuit, Anderson's bridge, De Sauty's bridge. (10 lectures)

Semiconductor: P and N type semiconductor, Energy level diagram, Concept of drift velocity, P-n diode, half and full wave rectifier.

Quantum Mechanics: Planck's constant and light as a collection of photons, wave-particle duality, Schrodinger time independent and time dependent wave equation.

(10 lectures)

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(10 lectures)  
Arvind  
21/4/22

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(4)

Radioactivity: Law of radioactive decay,  
decay constant, Mean life and half life,  
Elementary idea of ~~of~~ Alpha and Beta  
decay  
(10 lectures)

Reference Books:

1. Electricity and Magnetism, Edward M. Purcell
2. Electricity and Magnetism, D.C. Tayal.
3. Electricity and Magnetism, J.H. Fewkes. Yarwood.

PHY G.E-2 P (PRACTICAL)

1. To use a Multimeter for measuring (a) Resistance,  
(b) A.C and D.C voltage (c) D.C current  
and (d) Checking electrical fuses .
2. To determine low resistance by Carey Foster's  
Bridge .
3. To verify Thevenin and Norton Theorem
4. To study the characteristics of a series  
RC circuit .

✓  
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✓  
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✓  
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21-4-22

Meeting No - 48  
Meeting of B.O.C.S

21/04/2022  
Date: 21/04/2022  
Page No.: 22

An urgent meeting of the B.O.C.S was convened today in the Dept. of Physics, VBU, Hazaribagh at 3.30 pm, in the chairmanship of [03:30 PM] Head, Dept. of Physics. Following members of the Dept. of Physics and the Senior faculty members of the B.B.M.K Univ., Dhanbad were present in the meeting.

1. Dr. Ajay Murari, chairman 21/04/22
2. Dr R.N. Sinha 21/04/22
3. Dr. Ajay Prasad- B.B.M.K Univ. 21/04/22
4. Dr. D.K. Misra - B.B.M.K.Univ. 21/04/22
5. Dr. L. Shiveshpuri 21/04/22
6. Dr. R. Hari 21/04/22
7. Dr. Rakesh Kumar Pandey 21/04/22
8. Dr. Navin Chandra 21/04/22

Agenda - To approve the Syllabus of B.Sc. Physics Generic to be included in the U.G Sem - I to IV for ~~Int. C~~ <sup>Updating</sup> Generic mode of Subjects in B.Sc (Hons) degree.

Resolution -

1. Syllabus for B.Sc. Physics Generic for Sem-I to Sem-IV (twin Generic mode) was discussed in the meeting.

completed as per the work order  
(Ref. No. VBU/CCDC/R/1857/2021 dated  
11-09-2021).

Mr. Mandeep Singh from Indosaw has reported in the Department today for the work.

After completion of the work as per the work order the completion report will be approved by the Departmental Councils (DC).

*Mandeep Singh*  
~~19/4/22~~  
  
~~19/4/22~~  
  
*Vikram Kumar*  
~~19/4/22~~  
  
~~19/4/22~~  
  
~~19/4/22~~

SEM - III, VI

18-01-21

**Revised Syllabus  
B.Sc. (GEN/PASS) IN PHYSICS  
(under CBCS)**

*Academic Session*  
**w.e.f. 2018-2019 - 2021**

*(W.e.f Academic Session - 2018 - 19)*

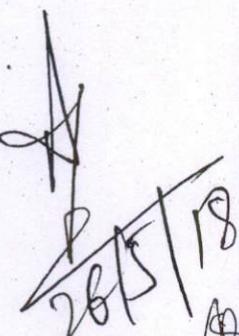
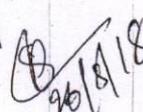
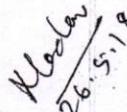
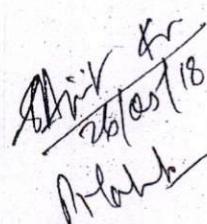
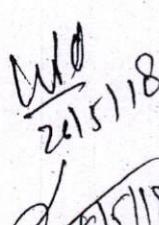
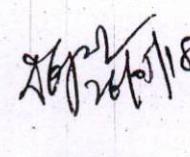
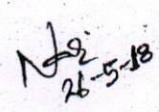
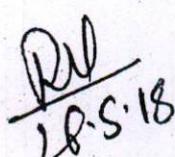


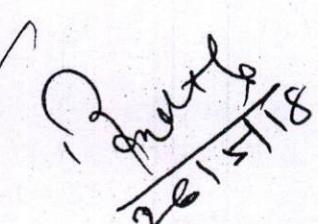
for  
*All Constituent/Affiliated Colleges Under*  
**Vinoba Bhave University, Hazaribag**



	INSTRUMENTATION (02 Credits, 30 Lectures)			
E- 2A	from other disciplines (06 Credits/(04 + 02 Credits))	100/(75+25)	80/(60+20)	20/(15+05)
DSE- 3A	from other disciplines (06 Credits/(04 + 02 Credits))	100/(75+25)	80/(60+20)	20/(15+05)
SEC-3	Annexure - 1 (Credits: 02; Theory: 30 Lectures)	50	40	10
<b>SEM VI</b>				
PHY-DSE-1B.T	ELEMENTS OF MODERN PHYSICS (04 Credits, 60 Lectures)	75	60	15
PHY-DSE-1B.P	ELEMENTS OF MODERN PHYSICS (02 Credits, 30 Lectures)	25	20	05
DSE- 2B	from other disciplines (06 Credits/(04 + 02 Credits))	100/(75+25)	80/(60+20)	20/(15+05)
DSE- 3B	from other disciplines (06 Credits/(04 + 02 Credits))	100/(75+25)	80/(60+20)	20/(15+05)
SEC-4	Annexure - 1 (Credits: 02; Theory: 30 Lectures)	50	40	10
	Extra-Curricular Based Activities ( <i>list-under UG regulation: page 17</i> )	50	40	10

Total Marks = 2150

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**Present**

Important Instructions for faculty members and questions setters  
(see Table-09 of UG regulation).

**Para I:**

A paper having 06 credits carry 100 marks; 80 marks for end semester exam and 20 marks for internal exam (mid term), which further divided as 15 (internal exam-theory/practical) + 05 (attendance and other activities).

A candidate has to answer Five Questions out of Nine Questions of which Question no. 1 is compulsory and will be of short answer type to be answered in about 100 words (4 Questions to be answered out of 8). Out of the remaining 08 (eight) Questions, 04 (four) are to be answered. Each question carries 16 marks.

**Para II:**

A paper having 04 credits carry 75 marks; 60 marks for end semester exam and 15 marks for internal exam (mid term), which further divided as 10 (internal exam-theory/practical) + 05 (attendance and other activities).

A candidate has to answer Five Questions out of Nine Questions of which Question no. 1 is compulsory and will be of short answer type to be answered in about 100 words (3 Questions to be answered out of 6). Out of the remaining 08 (eight) Questions, 04 (four) are to be answered. Each question carries 12 marks.

**Para III:**

A paper having 02 credits carry 50 marks; 40 marks for end semester exam and 10 marks for internal exam (mid term), which further divided as 05 (internal exam-theory/practical) + 05 (attendance and other activities).

A candidate has to answer Three Questions out of Five Questions of which Question no. 1 is compulsory and will be of short answer type to be answered in about 100 words (2 Questions to be answered out of 4) and carry 05 marks each. Out of the remaining 04 (four) Questions, 02 (two) are to be answered and carries 15 marks.

NB: Questions may be framed as per the direction issued to the paper setter from Examination Department, Numerical problems may be included  
Some of the questions may be repeated from previous year.

**UNIVERSITY DEPARTMENT OF ENGLISH**

**VINOBABA BHAVE UNIVERSITY**  
Hazaribag - 825301 (Jharkhand)  
[www.vbu.ac.in](http://www.vbu.ac.in)  
W.H. - Sandeep



Ref. No. VBU/Engg/720/22

Date..... 21/04/2022

DSR A

To  
The Registrar  
VBU, Hazaribag

Sub: Submission of updating the G.E course

Sir,  
In pursuance of memo no-VBU/RO/513/2009/Vol(iii)/1038/22 enclosed  
herewith updating the G.E Course of B.A/B.Sc./B.com

29/4/22  
Arun  
PVL

22/04/22  
AR  
G.S. A.K. Dholakia

Encl: I. Consent letter of external expert  
II. BOCs meeting

Yours sincerely

21/4/22  
Head of Deptt Head  
University Department of English  
VINOBABA BHAVE UNIVERSITY  
Hazaribag

21/4/22  
21/4/22

To Whom It May Concern,

This is to inform you that I have gone through the changes made in the Syllabus of GE 1& 2 Syllabus for the Undergraduate Course in English .  
I approve all the changes and give my consent for the same .

being sent to the laboratory for the next fit.  
The most find difficult  
This observation was before  
numerous  
ascender.

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H. Severe Suite (H.o.D, lhr. Delt. of Engg.) -  
BKMU, (How base)

Following please see these present in the meeting.

Mr. Rajendra K. Desai, Auditor 21/12/22  
Mr. S. S. Shinde - 6/12/22  
Mr. D. D. Zingray - 6/12/22  
Mr. Bhawarifund 21/12/22  
Mr. G. N. Singh 21/12/22  
Mr. Member 21/12/22

Answers of B.A/B.E/B.Com & BCA

— for updating the E-formation

If meeting of the BOCs (Board of trustee of students) was held on 8/1/22 at 9 AM in the conference room, it being in conference room, it being in conference room.

## BBC Meeting

**GE ENGLISH FOR STUDENTS FROM DISCIPLINES OTHER THAN ENGLISH CORE**

**GE - 1**

**FULL MARKS: 100**

**UNIT I**

The following poems are prescribed –

1. Shakespeare: Blow, Blow Thou Winter Wind
2. Pope: Ode on Solitude
3. Wordsworth: Three Years She Grew
4. Robert Frost: The Road Not Taken

**UNIT II**

G.B. Shaw: *Arms and the Man*

**Unit III**

An acquaintance with the following literary terms:

1. Tragedy 2. Comedy 3. Plot 4. Character 5. Setting 6. Climax 7. Sonnet 8. Ode 9. Epic 10. Simile 11. Metaphor 12. Alliteration 13. Personification 14. Symbol 15. Novel 16. Short Story 17. Magic Realism 18. Dialogue 19. Lyric 20. Problem Play

**Suggested Readings**

1. Abrams, M H. *A Glossary of Literary Terms*. Cengage Learning India Pvt Ltd, 2015.
2. Grierson, Herbert. *A Critical History of English Poetry*. Bloomsbury Academic, 2014.
3. Shaw, G.B. *Arms and the Man* (annotated). Create Space, Independent Publishing Platform, 2016.

**MODIFIED CBCS BA SYLLABUS 2022**

Distribution of Marks:

Total: 100 marks

End Semester: Total 80 marks

Time: 3 Hours

2 long questions to be attempted out of 4 to be asked, to be set from Unit I:  $2 \times 15 = 30$

1 long question to be attempted out of 2 to be set from Unit II:  $1 \times 20 = 20$

6 short notes out of 10 to be asked, from Unit III:  $6 \times 5 = 30$

Total: 80

**Internal Assessment**

Total: 20 marks

On the basis of class/unit tests through the term: 10 marks

Seminars/NCC/NSS/ Sports/extra-curricular activities: 5 marks

General behaviour and conduct, regularity in attending classes: 5 marks

Total: 20

14/12/22  
Santosh Kumar  
Head of Department of English  
Guru Nanak Dev Private University  
Amritsar, Punjab, India  
21/12/22  
Gurpreet Singh  
21/12/22  
21/12/22  
21/12/22  
21/12/22  
21/12/22  
21/12/22

GE - 2

FULL MARKS: 100

UNIT I

*Lords of the Global Village* — Ranendra (Trans. Rajesh Kumar, Speaking Tiger, 2018)

UNIT II

General reading and understanding of the following poems:

Sarojini Naidu – Palanquin Bearers

Nissim Ezekiel – Night of the Scorpion

Kamala Das – The Dance of the Eunuchs

Jayant Mahapatra – A Summer Poem

UNIT III

*Honey Dew: An Anthology of Prose, Poetry and One-act Play* (Orient Black Swan): Following pieces in prose section are prescribed:

The Thief – Ruskin Bond

Three Hermits – Leo Tolstoy

The Toasted English – R K Narayan

Playing the English Gentleman – M K Gandhi

Suggested Readings

1. Tuckerman, Bayard. *A History of English Prose Fiction*. G P Putman's Sons, 1987

*Name: \_\_\_\_\_ Date: \_\_\_\_\_*  
21/04/2022

*Signature: \_\_\_\_\_ Date: \_\_\_\_\_*  
21/04/22  
Department of English  
University of Dhaka  
Bengali

2. Grierson, Herbert. *A Critical History of English Poetry*. Bloomsbury Academic, 2014.

### Distribution of Marks:

Total: 100 marks

End Semester: Total 80 marks

Time: 3 Hours

1 long question, to be attempted out of 2 to be asked, to be set from Unit I:

2 long questions to be attempted out of 4 to be set from Unit II:

2 long questions to be attempted out of 4 to be set from Unit III:

Total: 80

Internal Assessment

Total: 20 marks

On the basis of class/unit tests through the term: 10 marks

Seminars/NCC/NSS/ Sports/extra-curricular activities: 5 marks

General behaviour and conduct, regularity in attending classes: 5 marks

Total: 20

Page 4 of 4

Rakho Hoir

# PHYSICS

(1)

## Syllabus

B. Sc. (Gen)

### Paper - I

#### MECHANICS

Elasticity: Relation between elastic constants, Searle's experiment.

Fluid motion: Stream line and turbulent motion, Viscosity, Coefficient of viscosity, terminal velocity, Poiseuille's Equation for flow of a liquid through a capillary tube, Mayer's equation.

Surface tension: Surface tension surface energy, Angle of contact, Quinckie's method.

Special theory of relativity: Michelson-Morley experiment and its negative result, Variation of mass with velocity, Postulates of special theory of relativity and Lorentz transformation.

#### WAVES

Free, forced and damped oscillation, resonance. Newton's formula for velocity of sound and Laplace's correction.

(2)

Kinetic theory of gases: Maxwell's velocity distribution law, Degree of freedom, Law of equipartition of energy

Thermodynamics: Zeroth law of Thermodynamics, 1st law of Thermodynamics, Work done during isothermal and adiabatic processes



# PHYSICS

## Paper-II

(3)

~~DM 8.412  
Balchot Hom~~

### Electricity and magnetism:

Conservative nature of electrostatic field, Electrostatic potential, Laplace's and Poisson's equations and its solution in Cartesian coordinates; Gauss's law in differential and integral form.

Magnetic Properties of matter: Magnetization vector ( $M$ ), Magnetic intensity ( $H$ ), Magnetic susceptibility and permeability

### Electrical circuits:

Complex reactance and impedance, Series and parallel LCR circuit, Anderson's bridge, De Sauty's bridge.

Semiconductor: P and N type semiconductor. Energy level diagram, Concept of drift velocity, P-n diode, half and full wave rectifier.

Quantum Mechanics: Planck's constant and light as a collection of photons, wave-particle duality, Schrodinger time independent and time dependent wave equation.

(4)

Radioactivity: Law of radioactive decay,  
decay constant, Mean life and half life,  
Elementary idea of ~~the~~ Alpha and Beta  
decay

