Your Roll No................

Sr. No. of Question Paper : 1914    **F**

Unique Paper Code : 2034001214

Name of the Paper : Film Appreciation & Criticism (GE)

Name of the Course : **B.A. (Hons.) Journalism**

Semester : II

Duration : 3 Hours    Maximum Marks : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. This question paper contains **2** parts. Both parts are COMPULSORY.

3. Candidates have to answer **All** questions in **PART A** and Any **3** questions in **Part B**.

4. Questions in **Part A** carry **10** marks each, and questions in **PART B** carry **20** marks each.

P.T.O.

## Part A

1.  (a) Write short notes on Mis-en-scene and Deep Focus.

    **Or**

    (b) The story is the action of the movie and the plot is how the story is being told- Comment with relevant examples.

2.  (a) Write a short note on German Expressionism.

    **Or**

    (b) Discuss any two film genres of Classical Hollywood Cinema.

3.  (a) Write a short note on Non-fiction Cinema.

    **Or**

    (b) Discuss the concept of male gaze with reference to feminist film theory. Give relevant examples.

## Part B

Attempt any **three** questions.                    (3×20=60)

4.   (a) Discuss montage and continuity editing techniques of film editing with appropriate examples from films.

**Or**

(b) How does sound and colour play an important role in cinema? Elaborate with examples.

5.   (a) Is film noir about style more than content? Substantiate your argument with film references.

**Or**

(b) What are the significant features of Italian Neorealist films? Discuss.

6.   (a) Cinema gave impetus to the idea of nationalism during pre-independence period. Comment with relevant examples from films.

**Or**

(b) What do you understand by Third Cinema? How is it different from first world cinema and second world cinema?

7.  (a) 1950s are often considered as the golden era of Hindi cinema. Elaborate with references to noted filmmakers of the decade.

**Or**

(b) How has film culture in India evolved after the advent of globalization. State with relevant examples.

9

[This question paper contains 2 printed pages.]

**Sr. No. of Question Paper : 1933**          **F**

Unique Paper Code          : 2054001203

Name of the Paper          : Patkatha  Aur  samvaad
                             Lekhan

Name of the Course          : **B.A. (Hons.) Hindi**

type of the paper          : **(GE)**

Semester                   : II

Duration : 3 Hours          Maximum Marks : 90

## छात्रों के लिए निर्देश

1.  इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2.  **सभी** प्रश्न अनिवार्य हैं ।

1.  पटकथा की अवधारणा स्पष्ट करते हुए उसका महत्व रेखांकित कीजिए ।                                         (18)

### अथवा

पटकथा के स्वरूप की चर्चा करते हुए पटकथा लेखन की प्रक्रिया पर प्रकाश डालिए ।

2.  पटकथा की दृष्टि से किसी फीचर फिल्म की पटकथा की समीक्षा लिखिए ।                                         (18)

P.T.O.

अथवा

किसी डॉक्यूमेंट्री की पटकथा लिखते समय किन बातों का ध्यान रखना चाहिए?

3. संवाद लेखन की मुख्य विशेषताएं बताइए ।                    (18)

अथवा

कथा–आधारित दृश्य–श्रव्य विधाओं के लिए संवाद लेखन के महत्व पर प्रकाश डालिए।

4. संवाद लेखन की दृष्टि से किसी एक सामाजिक धारावाहिक का मूल्यांकन कीजिए ।                    (18)

अथवा

डॉक्यूमेंट्री के लिए संवाद लेखन करते हुए किन बातों का ध्यान रखना आवश्यक है?

5. किन्हीं **दो** पर टिप्पणी लिखिए :                    (9 + 9 = 18)

(क) पटकथा लेखन के तत्व

(ख) धारावाहिक और फीचर फिल्म की पटकथा में अंतर

(ग) संवाद लेखन की प्रक्रिया

(घ) फिल्म संवाद लेखन के मुख्य बिन्दु

[This question paper contains 4 printed pages.]

Your Roll No...............

Sr. No. of Question Paper : 1936      F

Unique Paper Code      : 2314001201

Name of the Paper      : Delhi Through The Ages: From Colonial to Contemporary Times

Name of the Course      : **B.A. (Hons) GE**

Semester      : II

Duration : 3 Hours          Maximum Marks : 90

समय : 3 घण्टे          पूर्णांक : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt any **four** questions in all.

3. **All** questions carry equal marks.

4. Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

P.T.O.

छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. किन्हीं **चार** प्रश्नों के उत्तर दीजिए ।

3. सभी प्रश्नों के अंक समान हैं ।

4. इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. Describe the political, literary and cultural landscape in pre-1857 Delhi.

   1857 से पूर्व दिल्ली में राजनीतिक, साहित्यिक और सांस्कृतिक परिदृश्य का वर्णन कीजिए ।

2. What did Delhi witness in the aftermath of 1857? In what ways did the events of the rebellion lead to changes in the city?

   1857 के बाद दिल्ली शहर क्या बदलाव हुए? 1857 के विद्रोह की घटनाएँ दिल्ली को किन परिवर्तनों की ओर ले गयीं?

3. In what ways did New Delhi represent the imperial visions of the British Empire in India?

नई दिल्ली किस तरह से भारत में ब्रिटिश साम्राज्य के शाही दर्शन (सोच) का प्रतिनिधित्व करती है?

**OR**

What were the issues related to acquiring Land for the construction of New Delhi?

नई दिल्ली के निर्माण के लिए भूमि अधिग्रहण से संबंधित मुद्दे क्या थे?

4. What did "Partition" and "Independence" mean to the people of Delhi?

दिल्ली के लोगों के लिए "विभाजन" और "स्वतंत्रता" के क्या मायने थे?

5. Discuss the political, economic and demographic impact of Partition on Delhi.

दिल्ली पर विभाजन के राजनीतिक, आर्थिक और जनसांख्यिकीय प्रभावों की चर्चा कीजिए।

6. Explain some of the processes by which parts of urban spaces or outer Delhi developed with special reference Welcome or Mehrauli.

वेलकम या महरौली के विशेष सन्दर्भ से उन प्रक्रियाओं को समझाइये जिन से कुछ शहरी जगहों या बाहरी दिल्ली का विकास हुआ है।

7. Discuss the significance of the establishment of the University of Delhi.

दिल्ली विश्वविद्यालय की स्थापना के महत्व की चर्चा कीजिए।

8. Write a short note on **any two** of the following :

   (i) Ghalib's Delhi

   (ii) Master Ramchandra

   (iii) Waste management and changing urban environment of 19th Century Delhi

   (iv) Delhi's cultural history through coffee and tea houses

निम्नलिखित में से किन्हीं दो पर संक्षिप्त टिप्पणी लिखिए :

   (i) गालिब की दिल्ली

   (ii) मास्टर रामचंद्र

   (iii) 19वीं सदी की दिल्ली का कचरा प्रबंधन और बदलता शहरी माहौल

   (iv) कॉफी और चाय घरों के माध्यम से दिल्ली का सांस्कृतिक इतिहास

[This question paper contains 4 printed pages.]

Your Roll No...............

Sr. No. of Question Paper : 2005          **F**

Unique Paper Code          : 2174001206

Name of the Paper          : GE: Molecules of Life

Name of the Course         : **B.Sc. (Hons)/B.Sc. (Prog)**

Semester                   : II

Duration : 2 Hours                    Maximum Marks : 60

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  **All** questions have equal marks

3.  Attempt **any four** questions in all.
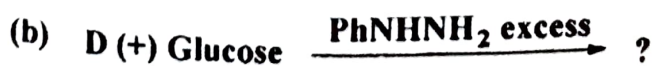
1.  Answer **any five** of the following :-

    (i)   What are anomers and epimers? Give examples.

    (ii)  Explain with structure, why sucrose is a non-reducing sugar.

    (iii) What are essential.amino acids? Give three examples.

P.T.O.

(iv) What are enzymes? Discuss briefly the classification of enzymes and their uses.

(v) Brief discussion of quaternary structure of proteins.

(vi) How does carboxypeptidase enzyme help with peptide chain C-terminal residue analysis?

(3×5)

2. Explain the Following :

(i) Open chain structure of glucose fails to explain some of the properties of D (+) glucose. What are those properties?

(ii) Define and give an example of the following: (**any two**)

(a) Mutarotation

(b) Glycoside.

(c) Invert sugar

(iii) Discuss the Kiliani-Fischer Synthesis.

(iv) Write the product (structures) in the following reaction:

(a) D(+) Glucose $\xrightarrow{Br_2/H_2O}$ ?

(b) D (+) Glucose $\xrightarrow{PhNHNH_2 \text{ excess}}$ ?

(c) D (+) Glucose $\xrightarrow{HI/ \text{ Red P}}$ ?

(4,4,4,3)

3.  (i) What is Structure-activity relationship (SAR) of drug molecules, ? How can it be optimized.

    (ii) Briefly describe the factors affecting enzyme activity.

    (iii) What are coenzymes and cofactors, and their application in biological reactions.

    (iv) What is the difference between a competitive and noncompetitive enzyme inhibition ?        (4,4,4,3)

4.  (i) Draw the chair forms of α- and β-D-glucopyranose. What is the intermediate in their   conversion? Give mechanism of this interconversion.

    (ii) Explain each of the following observations :

        (a) D-fructose gives a positive Tollens test.

        (b) D-glucose epimerises in base but D-glucitol does not.

        (c) $N_aBH_4$ reduction of D-fructose gives two alditols, but the same reduction of D-glucose gives only one.

    (iii) Draw the structure : (Any four)

        Maltose, Lactose, D-Fructose, D-Mannose, D-Gluconic acid, *t*-Boc

(iv) What are polysaccharides, and why are cellulose and starch so essential in daily life?    (4,4,4,3)

5.  (i) Explain how to determine the N-terminal amino acid of a peptide using the Edman degradation technique.

(ii) In an electric field an amino acid would migrate towards which electrode at :

(a) pH<PI   (b) pH>PI   (c) pH=pI. Explain.

(iii) What is DCC and what role does it play in peptide synthesis? Discuss with an example.

(iv) What are the advantages associated with the solid-phase peptide synthesis? Discuss the Merrifield synthesis of polypeptides    (4,4,4,3)

6.  Briefly define or describe the following: **(any five)**

(i) Zwitterion structure and Iso-electric point

(ii) $\alpha$-helix and $\beta$-pleated sheet and their differences

(iii) Electrophoresis

(iv) Denaturation of proteins

(v) Importance's of Ninhydrin reagent

(vi) Wohl's or Ruffs Degradation method of sugar

(3×5)

**(1000)**

5

Your Roll No...............

Sr. No. of Question Paper : 2048          F

Unique Paper Code       : 2234001201

Name of the Paper       : Lifestyle Disorders -
                          Generic Elective (GE)

Name of the Course      : **B.Sc. (Hons.) Zoology
                          (NEP)**

Semester                : II

Duration : 2 Hours              Maximum Marks : 60

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. First question is compulsory and attempt **any three** questions from remaining

1. (a) Define the following terms:                    (6)

    (i) Basal Metabolic Rate

    (ii) Hemorrhage

P.T.O.

(iii) Meditation

(iv) Metabolic syndrome

(v) Obesity

(vi) Thrombolysis

(b) Distinguish between the following: (5)

(i) Proto-oncogenes and Tumor suppressor genes

(ii) Cardiac arrest and Cardiac failure

(iii) Relative and Absolute risk factors

(iv) Fasting and Postprandial blood glucose level

(v) VLDLs and LDLs

(c) What do you understand by the following: (4)

(i) Diuretics

(ii) Myocardial Infarction

(iii) CPR

(iv) Glucose intolerance

2.  (i) How is the Benign tumor different from Malignant tumor? (5)

    (ii) Enlist the lifestyle habits that leads to cancer of mouth. In details describe any two methods to diagnose and treat the Oral cancer. (10)

3.  (i) What is Echocardiography? Describe about its principle and various modes. (8)

    (ii) How does erratic sleep patterns, smoking and wrong food-choices increase the risk of lifestyle disorders? (7)

4.  (i) Write about symptoms and causes of Type 2 diabetes. Add an account on the associated risk factors and complications. (8)

    (ii) What is CAD? Explain the associated symptoms and causes. (7)

5.  (i) Define blood pressure. What are the types and causes of hypertension. Give a detailed account on hypertension management strategies? (7)

(ii) What are the risk factors associated with hypertension, and how do they contribute to the development of complications in various organs such as the brain, heart, and eyes? (8)

6. Write down a short note on **any three** of the following:

(5x3=15)

(i) Coronary atherosclerosis

(ii) Biopsy

(iii) Fit India Movement

(iv) ECG

(v) Cardiac rehabilitation

[This question paper contains 8 printed pages.]

Your Roll No...............

**Sr. No. of Question Paper :** 4122       **E**

Unique Paper Code      : 12275201

Name of the Paper      : Introductory Macroeconomics II

Name of the Course      : **B.A. (Hons) GE**

Semester      : II

Duration : 3 Hours         Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt any **five** questions.

3. **All** questions are of **15** marks each.

4. Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

P.T.O.

2. किन्हीं पाँच प्रश्नों का उत्तर दीजिए ।

3. सभी प्रश्न 15 अंक के हैं ।

4. इस प्रश्न–पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. (a) Explain the components of current account of balance of payments.

   (b) Differentiate between intermediate and final goods. Under which category, are "Capital Goods" included?

   (c) What is GDP deflator? How is it different from CPI?            (5,5,5)

   (अ) भुगतान संतुलन के चालू खाते के घटकों की व्याख्या करें।

   (ब) मध्यवर्ती और अंतिम वस्तुओं के बीच अंतर करें। "कैपिटल गुड्स" किस श्रेणी में शामिल हैं?

   (स) GDP डिफ्लेटर क्या है? यह CPI से कैसे अलग है?

2. (a) Explain how equilibrium is determined in the money market. What happens to the equilibrium rate of interest in the following situations? Use suitable diagram.

   (i) Increase in nominal income

   (ii) Increase in money supply

(b) The following financial market data is given for an economy (in rupees) :

Currency = 2000; Reserves = 400; Deposits = 4000.

   (i) Calculate size of money multiplier

   (ii) Monetary Base

   (iii) Money Supply

(c) "Change in money supply affects the price level", Explain.                    (5,5,5)

(अ) समझाएं कि मुद्रा बाजार में संतुलन कैसे निर्धारित किया जाता है। निम्नलिखित स्थितियों में ब्याज की संतुलन दर का क्या होता है? उपयुक्त आरेख का प्रयोग करें।

   (i) नाममात्र आय में वृद्धि

   (ii) मुद्रा आपूर्ति में वृद्धि

(ब) निम्नलिखित वित्तीय बाजार डेटा एक अर्थव्यवस्था के लिए दिया गया है (रुपये में):

मुद्रा = 2000; भंडार = 400; जमा = 4000 ।

   (i) धन गुणक के आकार की गणना करें

   (ii) मौद्रिक आधार

   (iii) मुद्रा की आपूर्ति

(स) "मुद्रा पूर्ति में परिवर्तन कीमत स्तर को प्रभावित करता है", व्याख्या कीजिए।

3. (a) What are the social costs of expected and unexpected inflation?

(b) Differentiate between "Orthodox" and "Heterodox" stabilization programs adopted during hyperinflation.

(c) "The Inflation Tax is always equal to seigniorage" Comment and justify your answer.          (5,5,5)

(अ) अपेक्षित और अप्रत्याशित मुद्रास्फीति की सामाजिक लागत क्या हैं?

(ब) हाइपरइन्फ्लेशन के दौरान अपनाए गए "ऑर्थोडॉक्स" और "हेटेरोडॉक्स" स्थिरीकरण कार्यक्रमों के बीच अंतर करें।

(स) "मुद्रास्फीति कर हमेशा सेन्योरेज के बराबर होता है" टिप्पणी कीजिए और अपने उत्तर का औचित्य दीजिए।

4. (a) How is the labour demand curve derived under classical model?

(b) Explain the determination of equilibrium level of output, employment and the real wage in the classical system.          (7.5,7.5)

(अ) शास्त्रीय मॉडल के तहत श्रम मांग वक्र कैसे प्राप्त किया जाता है?

(ब) शास्त्रीय प्रणाली में उत्पादन, रोजगार और वास्तविक मजदूरी के संतुलन स्तर के निर्धारण की व्याख्या करें।

5. (a) Examine the impact of an expansionary fiscal policy on output and interest rate under two assumptions :

(i) Interest rates are kept constant

(ii) Money stock is kept constant

(b) State whether the following statements are True or False. Give reasons for your answer.

(i) A tax cut always increases the GDP of the country

(ii) If the government follows the policy of a balanced budget that is change in G = change in T, there will be no change in budget surplus.                                (7,8)

(अ) दो धारणाओं के तहत उत्पादन और ब्याज दर पर विस्तारवादी राजकोषीय नीति के प्रभाव की जांच करें :

(i) ब्याज दरें स्थिर रखी जाती हैं

(ii) मनी स्टॉक स्थिर रखा जाता है

(ब) बताएं कि निम्नलिखित कथन सही हैं या गलत हैं। अपने उत्तर के कारण बताएं।

(i) कर कटौती हमेशा देश की जीडीपी को बढ़ाती है

(ii) यदि सरकार एक संतुलित बजट की नीति का पालन करती है जो G में परिवर्तन = T में परिवर्तन है, तो बजट अधिशेष में कोई परिवर्तन नहीं होगा।

6. (a) What do you understand by Policy mix? In an economy, illustrate the effects of a policy mix on equilibrium output and interest rate.

(b) Given that in an economy

$C = 0.8 (1-t) Y$

$t = 0.25$

$I = 900-50i$

$\bar{G} = 800$

$L = 0.25Y - 62.5i$

$(\overline{M/P}) = 500$

    (i) Derive the equation for the IS curve.

    (ii) Derive the equation for the LM curve.

    (iii) What are the equilibrium levels of income and the interest rate?

(c) Under what condition the LM curve be horizontal?

                                       (7,5,3)

(अ) नीति मिश्रण से आप क्या समझते हैं? एक अर्थव्यवस्था में, संतुलन उत्पादन और ब्याज दर पर नीति मिश्रण के प्रभावों का वर्णन करें।

(ब) यह देखते हुए कि एक अर्थव्यवस्था में

$C = 0.8 (1-t) Y$

$t = 0.25$

$I = 900-50i$

$\bar{G} = 800$

$L = 0.25Y - 62.5i$

$(\overline{M/P}) = 500$

    (i) IS वक्र के लिए समीकरण व्युत्पन्न कीजिए।

(ii)    LM वक्र के लिए समीकरण व्युत्पन्न कीजिए।

(iii)   आय और ब्याज दर के संतुलन स्तर क्या हैं?

(स)   एलएम वक्र क्षितिज होने की स्थिति में क्या है?

7.  (a) Explain the role of multiplier in determining the slope of IS curve. Using IS-LM analysis explain how does an increase in autonomous spending affect the equilibrium level of income.

(b) Explain the concept of national wealth. Compute savings for an economy which has the following data :

| | |
|---|---|
| Investment | 300 |
| Exports | 100 |
| Imports | 80 |
| Factor payments received from rest of the world | 90 |
| Factors payments made to the rest of the world | 70 |

(c) Assume that the demand for real money balance is $M/P = Y[0.3 - i]$ where $i$ is nominal interest rate and Y is income. Calculate seigniorage if the rate of growth of nominal money is 15%, Income (Y) = 2000, real interest rate is 5% and expected inflation rate is 7%.                    (7,5,3)

(अ)   आईएस वक्र के ढलान को निर्धारित करने में गुणक की भूमिका की व्याख्या करें। आईएस-एलएम विश्लेषण का उपयोग करते हुए स्पष्ट करें कि स्वायत्त खर्च में वृद्धि आय के संतुलन स्तर

को कैसे प्रभावित करती है।

(ब) राष्ट्रीय धन की अवधारणा की व्याख्या कीजिए। निम्नलिखित डेटा वाली अर्थव्यवस्था के लिए बचत की गणना करें :

| | |
|---|---|
| निवेश | 300 |
| निर्यात | 100 |
| आयात | 80 |
| शेष विश्व से प्राप्त कारक भुगतान | 90 |
| शेष विश्व को किए गए कारक भुगतान | 70 |

(स) मान लें कि वास्तविक धन शेष की मांग एम/पी = वाई [0.3 - i] है जहां मैं मामूली ब्याज दर है और वाई आय है। यदि मामूली धन की वृद्धि दर 45%, आय (Y) = 2000, वास्तविक ब्याज दर 5% और अपेक्षित मुद्रास्फीति दर 7% है, तो सेन्योरेज की गणना करें।

8. Write a short note on **(any two)** of the following :

(a) Crowding out

(b) Use of Private Savings

(c) Quantity Theory of Money                    (7.5, 7.5)

निम्नलिखित में से **(कोई दो)** पर संक्षिप्त टिप्पणी लिखिए :

(अ) क्राउडिंग ऑउट।

(ब) निजी बचत का उपयोग।

(स) मुद्रा का मात्रा सिद्धांत।

Your Roll No...............

Sr. No. of Question Paper : **4125**                    **E**

Unique Paper Code          : 12035902

Name of the Paper          : GE: Media and Communication
                             Skills

Name of the Course         : **B.A. (Hons)**

Semester                   : IV

Duration : 3 Hours                    Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

## Part A

Answer **any three** questions from this part.

Each question carries **10** marks.

1.  What do you mean by 'developmental journalism'? Enumerate the role of mass communication in a developing country like India.

2. Do you think digital media has nullified the role and impact of print media?

3. What are advertising ethics? Why is it important to have ethics in advertising?

4. Enumerate the differences between a news story and a feature with suitable examples.

5. What is cyber media? List some benefits of cyber media in the field of education.

## Part B

Answer **any three** questions from this part.

Each question carries **15** marks.

6. Write a script for a radio feature to create awareness on "Voters' education and electoral participation" for greater participation for a stronger democracy.

7. Create an advertisement storyboard for an e-learning app for high-school students.

8. Write an Editorial article on any one of the following topics :

    (i) The implementation of the National Education Policy 2020.

    (ii) Shifting to alternative energy resources for checking climate change.

9. You are working for a publishing-media house and assigned the task of writing a review of a film recently released in theatres across the country. Write a promotional review highlighting the film's cast, crew, storyline, etc., to attract the audience to go to the theatres to watch the film.

10. You are an environment activist and wish to bring awareness regarding rising pollution in Delhi and other metropolitan cities in India. Write a blog for publishing on a blog site highlighting the significant causes and suggesting measures to reduce pollution in urban places.

8

[This question paper contains 4 printed pages.]

Your Roll No...............

Sr. No. of Question Paper : 4148          E

Unique Paper Code          : 12295203

Name of the Paper          : Coupled Human and
                             Environment System

Name of the Course         : B.A. (HONS.) Generic
                             Elective Course CBCS –
                             (LOCF)

Year of Admission          : Admission of 2019

Semester                   : II

Duration : 3 Hours                Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. All questions are compulsory and carry equal marks.

3. Use of stencil is allowed for drawing outline of maps.

4. Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

P.T.O.

छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. **सभी** प्रश्न अनिवार्य हैं और समान अंक के हैं ।

3. मानचित्रों की रूपरेखा बनाने के लिए स्टैंसिल के उपयोग की अनुमति है ।

4. इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. Coupled human and natural systems involve interactions and feedbacks between the human and environment subsystems. Elucidate with suitable example.

युग्मित मानव और प्राकृतिक प्रणालियों में मानव और पर्यावरण उप-प्रणालियों के बीच परस्पर क्रिया और प्रतिक्रियाएँ शामिल हैं । उपयुक्त उदाहरण देकर स्पष्ट कीजिए ।

### OR/अथवा

Discuss in detail different theories related to Coupled Human and Environment System?

युग्मित मानव एवं पर्यावरण व्यवस्था से संबंधित विभिन्न सिद्धांतों की विस्तार से चर्चा कीजिए ।

**4148** 3

2. What are the biogeochemical cycles? Illustrate the nitrogen cycle and impact of human in this system.

जैव भू-रासायनिक चक्र क्या हैं? नाइट्रोजन चक्र और उसके तंत्र में मानव के प्रभाव को स्पष्ट कीजिए।

OR/अथवा

Discuss the interaction and impact between human and natural system with reference to biogeochemical cycles.

जैव भू-रासायनिक चक्रों के संदर्भ में मानव और प्राकृतिक प्रणाली के बीच अन्योन्य क्रिया और प्रभाव पर विवेचना कीजिए।

3. What is water cycle? Discuss its importance and human impact on its function with suitable example.

जल चक्र क्या है? इसके महत्व की विवेचना कीजिए और उपयुक्त उदाहरण के साथ इसके क्रियान्वयन पर मानव प्रभाव की व्याख्या करें।

OR/अथवा

Discuss the interaction between surface-ground and coastal water in the hydro system with suitable illustration with reference to global scale.

वैश्विक स्तर के संदर्भ में जलीय तंत्र में सतह-जमीन और तटीय जल के बीच पारस्परिक क्रिया की उपयुक्त चित्रण कीजिए।

P.T.O.

4. Describe the need of integrated assessment of vulnerability and risk for long term sustainability of ecosystem with suitable examples.

पारिस्थितिक तंत्र की दीर्घकालिक स्थिरता के लिए भेद्यता और जोखिम के एकीकृत मूल्यांकन की आवश्यकता का उपयुक्त उदाहरणों के साथ वर्णन करें।

## OR/अथवा

Discuss in detail the role of governance and policies in effective management of human environment system with reference to global initiatives.

वैश्विक पहलों के संदर्भ में मानव पर्यावरण प्रणाली के प्रभावी प्रबंधन में शासन और नीतियों की भूमिका पर विस्तार से चर्चा कीजिए।

5. Write short note on any **two** of the following :

(a) Himalayan – Ganga Ecosystem

(b) Theories of Coupled Human Environment System

(c) Management practices for environmental sustainability

निम्नलिखित में से किन्हीं **दो** पर संक्षिप्त टिप्पणी लिखिए :

(अ) हिमालय – गंगा पारिस्थितिकी तंत्र

(ब) युग्मित मानव पर्यावरण प्रणाली के सिद्धांत

(स) पर्यावरणीय स्थिरता के लिए प्रबंधन पद्धतियां

(500)

9

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 4214     E

Unique Paper Code     : 12135910

Name of the Paper     : Individual, Family and Community in Indian Social Thought

Name of the Course     : **B.A. (H), Sanskrit, GE, LOCF**

Semester     : II

Duration : 3 Hours     Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Unless otherwise required in a question answers should be written either in Sanskrit or in Hindi or in English, but the same medium should be used throughout the paper.

3. Answer any **five** questions.

4. **All** question carry equal marks. Each questions contain **15** marks.

P.T.O.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. अन्यथा आवश्यक न होने पर, इस प्रश्नपत्र का उत्तर संस्कृत या हिन्दी या अंग्रेजी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

3. **पाँच** प्रश्नों के उत्तर दीजिए ।

4. **सभी** प्रश्नों के अंक समान हैं । एवं सभी प्रश्नों के लिए 15 अंक निर्धारित हैं ।

1. गीता में वर्णित योग मार्ग का समग्र विवेचन करते हुए वर्तमान समय में कर्ममार्ग की प्रासंगिकता बताएं ।

Explaining in detail the yoga path described in the Gita, explain the relevance of Karmarga in the present time.

2. उत्तम नागरिकों के निर्माण में संस्कार व्यवस्था की उपादेयता सिद्ध कीजिए ।

Prove the usefulness of the Saṁskāra system in the creation of good citizens.

3. मनुष्य के जीवन में भौतिक तथा आध्यात्मिक उद्देश्यों की प्राप्ति के साधन के रूप में पुरुषार्थ-चतुष्टय की उपादेयता का प्रतिपादन कीजिए ।

Describe the usefulness of four-Puruṣārtha as a means of achieving physical and spiritual goals in human life.

4. सामाजिक व्यवस्था के अन्तर्गत मनुष्यों में परस्पर सहृदयता व सामंजस्य स्थापित करने में सामनस्य सूक्त के विचार आज के समय में किस प्रकार से प्रासंगिक हैं?

In the social system, to establish mutual tender heartedness and harmony among humans, in what way are the thoughts of *Sāmanasyam Sūkta* relevant today?

5. धर्मशास्त्रों में वर्णित सामाजिक संस्थाओं संविद् व्यतिक्रम व समय अनपकर्म के नियमों का विश्लेषण कीजिए ।

Analyze the rules of social institutions, *Samvid vyatikrama* and *Samaya-anapakarma* described in the *Dharmaśāstras*.

6. पञ्चमहायज्ञ, गीता में व्यक्ति का स्वरूप व इष्टापूर्त पर टिप्पणी लिखिए ।

Write short notes on pañca-mahāyajña, idea of person in Gītā and iṣṭa-āpurta.

7.  निम्नलिखित में से किन्हीं **दो** पर संक्षिप्त टिप्पणी लिखिए :

Write short note on any **two** of the following :

(क) ज्ञानयोग            (yoga of knowledge)

(ख) दान का महत्त्व       (Importance of dāna)

(ग) त्रिगुण              (triguṇa)

[This question paper contains 2 printed pages.]

**Sr. No. of Question Paper :** 4273　　　　　**E**

Unique Paper Code　　　　: 12055401

Name of the Paper　　　　: हिंदी का वैश्विक परिदृश्य

Name of the Course　　　　: बी. ए. (ऑनर्स) हिंदी (सामान्य ऐच्छिक पाठयक्रम) (GE)

Semester　　　　　　　　: IV (CBCS)

Duration : 3 Hours　　　　　　　Maximum Marks : 75

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. सभी प्रश्नों के उत्तर दीजिए ।

1. हिंदी भाषा की वैश्विक स्थिति स्पष्ट कीजिए ।

### अथवा

हिंदी के प्रचार-प्रसार से संबद्ध प्रमुख वैश्विक संस्थानों का महत्त्व स्पष्ट कीजिए ।　　　　(15)

P.T.O.

2.  हिंदी के विश्व-संदर्भ पर प्रकाश डालिए ।

**अथवा**

संयुक्त राष्ट्र में हिंदी की स्थिति का आकलन कीजिए ।          (15)

3.  हिन्दी के वैश्विक प्रसार में सिनेमाई गीतों की भूमिका का उल्लेख कीजिए ।

**अथवा**

हिंदी को विश्व-भाषा बनाने में रेडियो कार्यक्रमों के योगदान को रेखांकित कीजिए ।
                                                                (15)

4.  अंतरराष्ट्रीय हिंदी सम्मेलनों के उद्देश्य एवं महत्त्व पर प्रकाश डालिए ।

**अथवा**

21 वीं सदी की हिंदी की वैश्विक चुनौतियों का विश्लेषण कीजिए ।
                                                                (15)

5.  किन्हीं **दो** पर टिप्पणिंया लिखिए :-

    (क)  वैश्वीकरण और हिंदी साहित्य

    (ख)  हिंदी की ई-पत्रिकाएँ

    (ग)  हिंदी और फ़ेसबुक

    (घ)  अंतरराष्ट्रीय हिंदी सम्मेलनों की परिकल्पना          (8 + 7=15)

                                                                **(1000)**

[This question paper contains 8 printed pages.]

Your Roll No...............

Sr. No. of Question Paper : 6017    **E**

Unique Paper Code : 32165201

Name of the Paper : Plant Ecology and Taxonomy

Name of the Course : **Botany : G.E. for Honours**

Semester : II

Duration : 3 Hours    Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **Section A** and **B** on SEPARATE SHEETS. Q. No. **1** of **both** sections is compulsory.

3. Attempt **three** questions from **Section A** and **three** questions from **Section B** including question number **1** of **both** sections.

4. Attempt **All** parts of the question together.

P.T.O.

## Section A

1. (a) Define any **five** of the following :                    (5×1=5)

    (i) Ecosystem

    (ii) Food chain

    (iii) Fleliophytes

    (iv) Ecotone

    (v) Pedogenesis

    (vi) Hygroscopic water

    (vii) Niche

(b) Fill in the blanks :                    (5×12=2.5)

    (i) The instalment used to measure relative humidity is _____ .

(ii) Pyramid of _____ is always upright.

(iii) Partially decomposed finely divided amorphous organic matter is known as _____ .

(iv) _____ fraction of the soil is the main source of nutrients and cation exchange capacity.

(v) Detritivores are the microbes that feed on _____ .

2. Differentiate between the following :        (5×3=15)

   (i) Food chain and food web

   (ii) Primary and secondary succession

   (iii) Natural and artificial ecosystem

   (iv) Hygroscopic and capillary water

(v) r and k selection

3. Write short notes on any **three** of the following :

(3×5=15)

(i) Soil profile

(ii) Endemism

(iii) Shelford's law of tolerance

(iv) Light as an ecological factor

(v) Characteristic features of the community

4. (a) Elaborate on biogeochemical cycle of Nitrogen with the help of suitable illustration and discuss the role of industrialization in the changes.

(8)

(b) Explain the process of soil weathering? Discuss the factors responsible for soil weathering.

(7)

## Section – B

1.    (a) Match the following :          $(5×1½=2.5)$

     (i) Father of taxonomy       (a) Engler and Prantl

     (ii) Forest Research        (b) J.D. Hooker

         Institute

     (iii) Phylogenetic system    (c) Dehradun

         of classification

     (iv) Numerical taxonomy    (d) Carl Linnaeus

     (v) Flora of British India    (e) Sokal and Sneath

(b) Give the alternative names of the following families :        $(1×5=5)$

Compositae, Graminae, Leguminosae, Labiatae,

Cruciferae

2. Write short notes on any **three** of the following :

$(3×5=15)$

(i) Keys

(ii) Typification

(iii) Principle of priority and its limitation

(iv) Cladistics

(v) Herbarium techniques and functions.

3. (a) Define any **five** of the following : $(5×1=5$

(i) OTU

(ii) Phenograms

(iii) Annotation label

(iv) Taxonomic hierarchy

(v) Taxonomic rank

(vi) Lectotype

(b) Differentiate between any **two** :　　　(2.5×2=5)

(i) Cladogram and phenogram

(ii) Flora and Manual

(iii) Artificial and natural system of classification

4. (a) Compare the classification system of Bentham and Hooker with that of Engler and Prantl. (7)

(b) Write down the principle of ICN. (5)

(1×3=3)

(c) Explain the following :

(i) *Cerasns cornuta* Wall, ex Royle

(ii) *Delphinium viscosum* Hook.f. et Thomson

(iii) *Stellaria media* (L) Will

\|

[This question paper contains 8 printed pages.]

**Sr. No. of Question Paper :** 6021      **E**

Unique Paper Code     :   32175913

Name of the Paper     :   GE-Chemistry of s & p Block Elements, States of Matter and Chemical Kinetics

Name of the Course     :   **B.Sc. (Hons) Chemistry**

Semester     :   II / IV

Duration : 3 Hours       Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **six** questions in all, **three** questions from each Section.

3. Use separate answer-sheets for **Section A** and **Section B** and do not intermix the sections.

## SECTION A

## (Inorganic Chemistry)

*Attempt any* **three** *questions.*

*Question No.* **1** *is compulsory.*

1.  Explain the following and justify your answers :

    (a) Aluminium chloride exists as dimer.

    (b) $PbCl_2$ is more stable than $SnCl_2$.

    (c) Boron does not form $B^{3+}$ ions.

    (d) $H_2SO_3$ is a strong reducing agent.

    (e) Arrange $HBrO_4$, $HIO_4$, $HClO_4$ in order of increasing oxidising ability.

    (f) First ionization enthalpy does not continue the decreasing trend from Al to Ga and In to Tl.

(g) Nitrogen is an inert gas whereas Phosphorous is highly reactive solid. (2,2,2,2,1.5,2,2)

2. (a) Why is Zn cannot be extracted from ZnO through reduction using CO? Justify this statement using Ellingham diagram.

(b) Why viscosity of sulphur first increases and then decreases on heating?

(c) Describe any three properties of alkali metals in liquid ammonia.

(d) Explain the concept of multicentre bonding.

(3,3,3,3)

3. (a) Explain purification by electrolysis.

(b) What is Electronegativity? Explain any two scales of electronegativity.

(c) Discuss allotropy of phosphorous.

(d) Show the reducing behaviour of hydrazine and hydroxylamine with ferric chloride.

(3,3,3,3)

4. (a) Why Be resembles with Al in its properties?

(b) Give name, formula and structure of any four oxyacids of sulphur.

(c) What happens when $PCl_3$ and $PCl_5$ hydrolyses?

(d) Write short notes on any **two** :

     (i) Carbides

     (ii) Mond's process

     (iii) Calcination and roasting      (3,3,3,3)

**6021**

# SECTION B

## (Physical Chemistry)

*Attempt anv* **three** *questions.*

5.   (a) Write the mathematical expression for the Maxwell distribution of molecular speeds of a gas. Briefly explain the terms involved. How does the change in temperature influence the distribution of molecular speed?

   (b) Calculate the most probable speed, average speed and root mean square speed of $CO_2$ at 300 K.

   (c) Derive the expression of collision frequency $Z_{11}$ of a gas.                                                    (4,4,4.5)

6.   (a) Define surface tension of a liquid. What are its SI units. Describe the drop number method for the determination of surface tension of a liquid.

(b) At 20°C time taken by equal volumes of water and toluene to flow through a capillary tube is 109 and 62 seconds respectively. Density of water and toluene are 998 and 866 $Kgm^{-3}$ respectively. Viscosity of water at this temperature is $1\times10^{-3}$ $Nm^{-2}$ s. What is the value of absolute viscosity of toluene?

(c) What is the effect of temperature on the viscosity of a liquid?

(d) What is compressibility factor?          (4,4,2,2.5)

7.  (a) Derive the Bragg's equation for the diffraction of X-rays by crystals.

(b) Calculate the Miller indices of the crystal plane which cuts through the crystal axis at :

(i) (2a, 3b, 4c)

(ii) (a, -3b, -3c)

(c) Write short notes on any **two** of the following :

(i) Law of rational indices

(ii) Schottky and Frenkel defect

(iii) Symmetry elements                    (4.5,4,2,2)


8. (a) Derive the integrated rate law equation for the first order reaction. Also derive the expression for $t_{1/2}$ for a first order reaction.

(b) Calculate the activation energy of a reaction whose rate constant is tripled by a 10°C rise in temperature in the vicinity of 27°C. (R = 8.314 $JK^{-1}$ $mol^{-1}$)

(c) Describe the half-life method for the determination

of order of the reaction.          (4.5,4,4)

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[This question paper contains 8 printed pages.]

**Sr. No. of Question Paper : 6095**      **E**

Unique Paper Code      : 32355202

Name of the Paper      : Linear Algebra

Name of the Course      : **Generic Elective – Mathematics [other than Maths (H)]**

Semester      : II

Duration : 3 Hours      Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **all** questions by selecting any **two** parts from each question.

1. (a) If x and y are vectors in $\mathbb{R}^n$, then prove that

     (i) $\|x + y\|^2 = \|x\|^2 + \|y\|^2$ if and only if x . y = 0.

P.T.O.

(ii) If $(x + y) \cdot (x - y) = 0$, then $\|x\| = \|y\|$.

(6½)

(b) If $x = [4, 0, -3]$ and $y = [3, 1, -7]$ be two vectors in $\mathbb{R}^3$, then decompose the vector y into two component vectors in directions parallel and orthogonal to the vector x. (6½)

(c) Define rank of a matrix. Also, find the rank of the matrix (6½)

$$\begin{bmatrix} 3 & 1 & 0 & 1 & -9 \\ 0 & -2 & 12 & -8 & -6 \\ 2 & -3 & 22 & -14 & -17 \end{bmatrix}$$

2. (a) Solve the following system of linear equations using Gaussian Elimination method

$$3x_1 - 6x_2 + 3x_4 = 9$$

$$-2x_1 + 4x_2 + 2x_3 - x_4 = -11$$

$$4x_1 - 8x_2 + 6x_3 + 7x_4 = -5$$

(6)

(b) Examine whether the matrix $A = \begin{bmatrix} 7 & 1 & -1 \\ -11 & -3 & 2 \\ 18 & 2 & -4 \end{bmatrix}$

is diagonalizable. (6)

(c) Let V be a vector space, and let $W_1$ and $W_2$ be subspaces of V. Show that

(i) $W_1 \cap W_2$ is also a subspace of V.

(ii) $W_1 + W_2$ defined by $W_1 + W_2 = \{w_1 + w_2 : w_1 \in W_1, w_2 \in W_2\}$ is also a subspace of V. (6)

3. (a) Use the Simplified Span Method to find a simplified general form for all the vectors in span(S) where

$$S = \left\{ \begin{bmatrix} -1 & 1 \\ 0 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 0 \\ 1 & -1 \end{bmatrix}, \begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix} \right\}$$ is a subset of $M_{22}$.

Is the set S linearly independent? Justify. (6½)

(b) Define a basis for a vector space. Examine whether the set

$S = \{[3, 1, -1], [5, 2, -2], [2, 2, -1]\}$ forms a basis for $\mathbb{R}^3$? (6½)

(c) Let $A = \begin{bmatrix} 1 & 1 & -2 \\ 2 & 1 & -3 \\ 5 & 4 & -3 \end{bmatrix}$. Using rank of A determine

whether the homogeneous system $AX = 0$ has a

non-trivial solution or not. If so, find the non-trivial

solution. (6½)

4. (a) Let $S = \{[1, 0], [1, -3]\}$ and $T = \{[1, -1], [1, 1]\}$

be two ordered bases for $\mathbb{R}^2$. Find the transition

matrix $P_{S \leftarrow T}$ from T-basis to S-basis. If $v$ is in $\mathbb{R}^2$

and $[v]_T = [5, 1]$, determine $[v]_S$. (6)

(b) Let $L: \mathbb{R}^3 \to \mathbb{R}^3$ be a linear operator and $L([1, 0, 0]) = [-2, 1, 0]$, $L([0, 1, 0]) = [3, -2, 1]$ and $L([0, 0, 1]) = [0, -1, 3]$. Find $L([x,y,z])$ for any $[x,y,z] \in \mathbb{R}^3$. Also find $L([-3, 2, 4])$.    (6)

(c) Let $L: \mathbb{R}^2 \to \mathbb{R}^2$ be a linear operator defined by $L([x, y]) = [2x - y, x - 3y]$. Find the matrix for L with respect to the basis $T = \{[4, -1], [-7, 2]\}$ using the method of similarity.    (6)

5. (a) For the graphic in the given figure, use ordinary coordinates in $\mathbb{R}^2$ to find new vertices after performing each indicated operation. Then sketch the figure that would result from this movement.

     (i) Translation along the vector $[2, -1]$. (6½)

     (ii) Reflection about the line $y = 2x$.
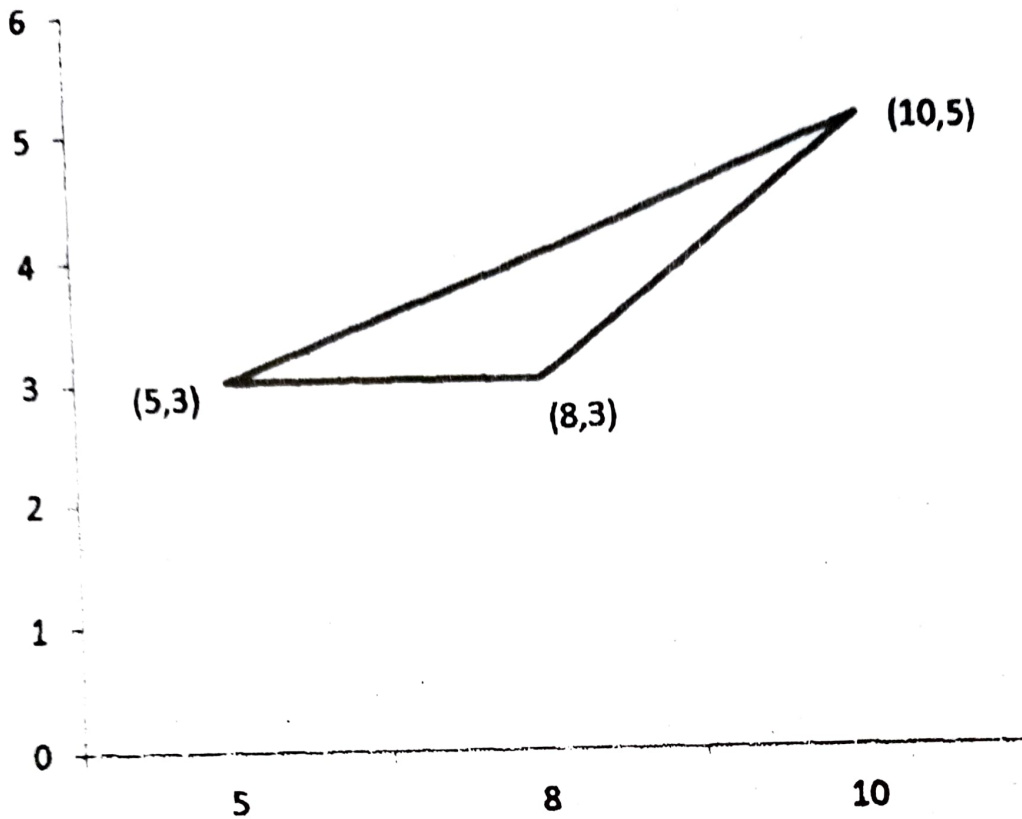
(b) State Dimension Theorem. Find a basis for Ker(L)

and a basis for range(L) for the linear

transformation L: $\mathbb{R}^3 \to \mathbb{R}^3$ given by      (6½)

$$L\left(\begin{bmatrix} x \\ y \\ z \end{bmatrix}\right) = \begin{bmatrix} 5 & 1 & -1 \\ -3 & 0 & 1 \\ 1 & -1 & -1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} \qquad \forall\ (x, y, z) \in \mathbb{R}^3$$

(c) Check whether the linear transformation $L : \mathcal{P}^3 \rightarrow \mathcal{P}^2$ defined by

$$L(a\,x^3 + b\,x^2 + c\,x + d) = a\,x^2 + b\,x + c$$

is an isomorphism or not.        (6½)

6. (a) Find a least square solution for the following inconsistent system

$$\begin{pmatrix} 1 & -1 \\ 4 & 1 \\ 2 & 3 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 0 \\ 4 \\ 5 \end{pmatrix}. \qquad (6)$$

(b) Let $W = \text{span}\{[8, -1, -4], [4, 4, 7]\}$ and $v = [1,2,3]$ $\in \mathbb{R}^3$. Find $\text{proj}_w\, v$, and decompose $v$ into $w_1 + w_2$, where $w_1 \in W$ and $w_2 \in W^\perp$.        (6)

(c) Let W be the subspace of $\mathbb{R}^3$, whose vectors lie in the plane $2x - 5y + z = 0$. Find a basis for W and its orthogonal complement. (6)

(3

Your Roll No...............

Sr. No. of Question Paper : **6137**                           **E**

Unique Paper Code          : 32175913

Name of the Paper          : GE-Chemistry of s & p Block
                             Elements, States of Matter and
                             Chemical Kinetics

Name of the Course         : **B.Sc. (Hons.) Chemistry**

Semester                   : II / IV

Duration : 3 Hours                    Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt
    of this question paper.

2.  Attempt **six** questions in all, **three** questions from
    each Section.

3.  Use separate answer-sheets for **Section A** and
    **Section B** and do not intermix the sections.

## Section A

### (Inorganic Chemistry)

*Attempt any* **three** *questions.*

*Question No.* **1** *is compulsory.*

1. Explain

   (a) Pb(II) is more stable than Pb(IV). Why?

   (b) Why Gallium is smaller in size as compared to Aluminium?

   (c) Differentiate between mineral and ore.

   (d) At room temperature Oxygen exist as a diatomic gas but sulphur exists as $S_8$ solid molecule.

   (e) The chemical and physical properties of Li and Mg are similar.

   (f) Diamond is hard but graphite is soft and slippery in nature.

(g) The chemical reactivity of noble gases is very low.        (2,2,2,2,2,2,1.5)

2. (a) Arrange the following Boron trihalides in increasing order of their lewis acidity: $BF_3$, $BCl_3$, $BBr_3$

(b) "Orthoboric acid is a weak monobasic acid". Justify this statement. Can we titrate orthoboric acid using NaOH?

(c) Write down the two preparation methods of Borazine. Also discuss the difference in the chemical properties of Borazine and benzene.

(d) Write a short note on Mond's Process.

                                 (3,3,3,3)

3. (a) Arrange the following alkali metal ions in increasing order of their hydration radii:

$Li^+$, $Na^+$, $K^+$, $Rb^+$, $Cs^+$

(b) $SiCl_4$ reacts with water to produce $SiO_2$ but $CCl_4$ do not react with water. Explain.

(c) What are silicates? Discuss the different types of silicates with suitable examples.

(d) Draw the structure of $P_4O_6$ and $P_4O_{10}$ molecules. Also discuss the formation of different products on hydrolysis of these phosphorus oxides.

$$(3,3,3,3)$$

4. (a) Discuss the difference in the geometry and basic nature of trisilylamine $N(SiH_3)_3$ and trimethylamine $N(CH_3)_3$.

(b) Draw the structure of following oxyacids of sulphur and also find out the number of S-S bonds in the structure of molecules :

$$H_2SO_5, \quad H_2S_2O_8, \quad H_2S_2O_6$$
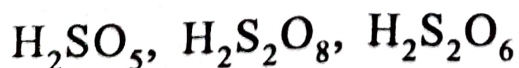
(c) Arrange the following oxoacids of halogens in their increasing order of acidic behaviour and explain:

$$HClO, \ HClO_2, \ HClO_3, \ HClO_4$$
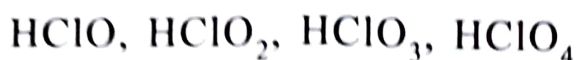
(d) Discuss the difference in the geometry of $XeF_4$ and $XeO_2F_2$.                                   (3,3,3,3)

## Section B

## (Physical Chemistry)

*Attempt any* **three** *questions.*

5.    (a) Derive the relations :

$$P_c = a/27b^2 \qquad T_c = 8a/27Rb$$

(b) Explain the factors which led van der Waals to modify the ideal gas equation $pV = nRT$ and hence derive the van der Waals equation of state.

(c) Calculate the most probable speed, average speed and root mean square speed of $O_2$ at 300 K.
                                                       (4,4,4.5)

6.   (a) Define coefficient of viscosity. What are its SI units. Describe Ostwald's method for the determination of viscosity of a liquid.

(b) In a surface tension experiment using a Stalagmometer, equal volumes of two liquids A and B give 55 and 25 drops respectively. Their densities are 0.80 and 0.99 g $cm^{-3}$ respectively. Determine the surface tension of liquid A if the surface tension of liquid B is 72.6 dynes $cm^{-1}$.

(c) The viscosity of gas increases with temperature while that of liquid decreases with temperature. Explain.

(d) What is Boyle temperature?                    (4,4,2.5,2)

7.   (a) When a certain crystal was studied by the Bragg technique using X-rays of wavelength 229 pm, an X-ray reflection was observed at an angle of 23°20'.

(i) What is the corresponding interplanar spacing?

(ii) When another X-ray source was used, a reflection was observed at 15° 26'. What was the wavelength of these X-rays?

(b) Describe all the symmetry elements of a cube.

(c) Write short notes on any **two** of the following :

(i) Law of constancy of interfacial angles

(ii) Unit cell and space lattice

(iii) Axis of symmetry                      (4.5,4,4)

8.   (a) Derive the integrated rate law equation for a second order reaction when the initial concentrations of both the reactants are same.

(b) Show that for a first order reaction the time required for 99.9% completion of the reaction is 10 times that required for 50% completion. Also derive the expression for $t_{1/2}$.

P.T.O.

(c) Write short notes on any **two** of the following :

(i) Activated complex theory

(ii) Arrhenius equation

(iii) Role of catalyst on the rate of a reaction

(4.5,4,4)

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Your Roll No...............

Sr. No. of Question Paper : 6140          E

Unique Paper Code          : 32175917

Name of the Paper          : GE: Organometallics, Bio-
                             inorganic Chemistry,
                             Polynuclear Hydrocarbons
                             and UV, IR Spectroscopy

Name of the Course         : **B.Sc. (Hons) Chemistry**

Semester                   : II / IV

Duration : 3 Hours                    Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt
    of this question paper.

2.  Attempt **three** questions from **Section A** and **three**
    from **Section B**.

3.  Use separate sheets for **Section A** and **Section B**.

P.T.O.

# SECTION A

*(Attempt any* **three** *questions)*

. (a) What happens when (Give balanced chemical equations) – **any four**

      (i) $KMnO_4$ reacts with a ferrous salt in acidic medium

      (ii) $SO_2$ gas is passed through acidic $K_2Cr_2O_7$ solution

      (iii) $K_4Fe(CN)_6$ is treated with conc. $H_2SO_4$

      (iv) Oxalic acid is added to acidic $KMnO_4$ solution

      (v) $K_4Fe(CN)_6$ is added into $CuSO_4$

(b) Write the chemical equation for the evolution of chromylchloride gas. Which anion can be confirmed by chromylchloride test?

(c) Draw the structure of the following :

   (i) $[Fe(CN)_6]^{4-}$

   (ii) $Cr_2O_7^{2-}$

   (iii) $MnO_4^-$                                      (4,4,4.5)
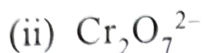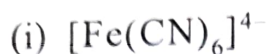
2.   (a) What are organometallic compounds? Draw the structure of Zeise's salt and ferrocene.

   (b) The symmetric CO stretching frequencies in $[V(CO)_6]^-$, $[Cr(CO)_6]$ and $[Mn(CO)_6]^+$ are 1860, 1980 and 2090 $cm^{-1}$ respectively. Explain these observations.

   (c) Predict the value of 'x' in the following using 18-electron rule.

   (i) $Fe_2(CO)_x$

   (ii) $Mn_2(CO)_x$                                    (4,4,4.5)
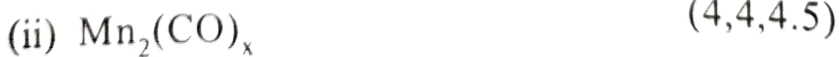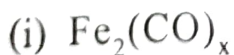
3.  (a) What is meant by active transport? Why is the Na-K pump an example of active transport?

(b) Explain the following :

(i) The role of $Mg^{2+}$ in energy production.

(ii) Draw and discuss myoglobin and hemoglobin binding curve at different partial pressure of $O_2$.

(c) What do you understand by the term essential, non-essential and trace elements in biological systems? Give one example of each.     (4,4,4.5)

4.  (a) Discuss synergistic effect in metal carbonyls. Using MO diagram of CO, explain why it acts as an electron donor and acceptor through carbon and not through oxygen?

(b) Give biological significance of transferrin and ferritin.

(c) Give a method of preparation for the following :

     (i) $KMnO_4$

     (ii) $K_4Fe(CN)_6$

     (iii) $K_2Cr_2O_7$                 (4,4,4.5)
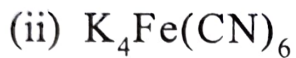
## SECTION B

*(Attempt any **three** questions)*

1. (a) Arrange the following in increasing order of reactivity. Give the reasons.

    Naphthalene, Benzene, Anthracene.

   (b) Why electrophilic substitution takes place at C-2 in case of furan instead of C-3?

(c) What happens when

     (i) Pyridine is treated with bromine at 300°C
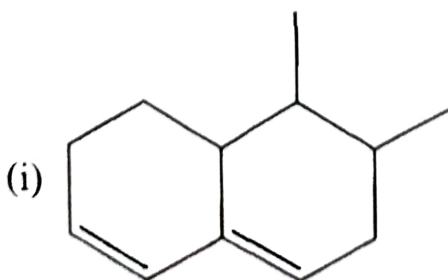
     (ii) Thiophene is reduced with hydrogen in the presence of nickel.        (4,4.5,4)

2.   (a) Distinguish the following pairs of compounds by IR spectroscopy
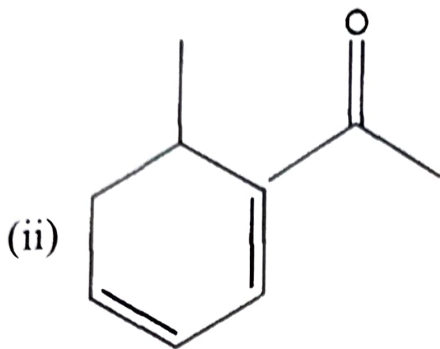
     (i) $CH_3CH_2CH_2COOH$ and $CH_3CH_2COOCH_3$

     (ii) $CH_3COCH_2CH_3$ and $CH_3CH_2COOCH_3$

  (b) Calculate $\lambda_{max}$ for the following :



(i)                        Basic value = 214

(ii) 

Basic value = 215 nm

(c) Give the absorption range of UV-spectroscopy.

(5,6,1.5)

3.  (a) Differentiate between bathochromic shift and hypsochromic shift.

(b) Synthesise the following using ethyl acetoacetate as starting material.

   (i) Adipic acid

   (ii) 2-Methyl butanoic acid

(c) Draw the resonating structures of pyrrole.

(4,5,3.5)

4. (a) Write down the synthesis of 4-methyl-2-pentanone using ethyl acetoacetate and crotonic acid.

(b) Give detailed mechanism for synthesis of ethyl acetoacetate starting from ethyl acetate.

(c) How did Knorr separate keto and enol forms of EAA? (4,5,3.5)

[This question paper contains 8 printed pages.]

Sr. No. of Question Paper : 6207      E

Unique Paper Code      : 32355402

Name of the Paper      : GE-4: Numerical Methods

Name of the Course      : **CBCS / LOCF (Other than B.Sc. (H) Mathematics Hons.)**

Semester      : IV

Duration : 3 Hours      Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt any **two** parts from each question.

3. Use of scientific calculator is allowed.

1. (a) Round-off the number 34.64867 correct up to three significant digits and then calculate absolute percentage error. (6)

P.T.O.

(b) Find the absolute, relative and percentage error if the approximate value is 2.7182 and the true value is 2.71828182.        (6)

(c) Perform four iterations of the bisection method to find the approximate root of the equation $x^5 + 2x - 1 = 0$ in interval $(0,1)$.        (6)

2.    (a) By using the Regula–Falsi method find the approximate root, correct up to two decimal places, of the equation $x^3 - 6x + 4 = 0$ in the interval $(0,1)$.        (6.5)

(b) By performing three iterations of the secant method find the approximate root of the equation $x^3 - 5 \sin x + 1 = 0$ in the interval $(0,1)$.        (6.5)

(c) Using the Newton-Raphson method find the approximate value of the cube root of 25. Perform three iterations of the method by taking initial approximation $x_0 = 2.8$.        (6.5)

3. (a) Using Gauss elimination method solve the following system of linear equations : (6)

$$x + 4y - z = -5$$

$$x + y - 6z = -12$$

$$3x - y - z = 4.$$

(b) Show that $E - 1 = \frac{1}{2}\delta^2 + \delta\mu$. (Note: Symbols have their own meaning) (6)

(c) Find the Lagrange interpolating polynomial which fits into the given data and approximate the value of f(5.5).

| x | 5 | 6 | 9 |
|------|----|----|----|
| f(x) | 12 | 13 | 14 |

(6)

4.    (a) By using the initial solution (0,0,0), perform three iterations of the Gauss Seidel method for the following system of linear equations :     (6.5)

$$10x + 2y + z = 9$$

$$2x + 20y - 2z = -44$$

$$-2x + 3y + 10z = 22.$$

(b) Obtain the piecewise linear interpolating polynomial for the function f(x) defined by the given data and by using it estimate the value of f(3).

| x | 1 | 2 | 4 | 8 |
|------|---|---|----|----|
| f(x) | 3 | 7 | 21 | 73 |

(6.5)

(c) Following table gives the amount of half yearly premium for policies maturing at different ages:

(6.5)

| Age (in years) | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|
| Premium (in Rs.) | 114.84 | 96.16 | 83.32 | 74.48 | 68.48 |

Make the difference table. Obtain the forward Gregory-Newton interpolating polynomial and estimate the premium for policy maturing at the age of 46.

5.  (a) For the following data, find f'(2) and f"(2) by using forward difference formulae

$$f'(x_i) \approx \frac{f(x_i + h) - f(x_i)}{h} \quad \text{and}$$

$$f''(x_i) \approx \frac{f(x_i) - 2f(x_i + h) + f(x_i + 2h)}{h^2}$$

| x | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| f(x) | 8 | 4 | 6 | 20 | 52 |

(6)

(b) For the function f(x) = ln x, approximate f′(2) by Richardson extrapolation using central difference

formula $f'(x) \approx \dfrac{f(x+h)-f(x-h)}{2h}$ with h = 0.1 and

h = 0.05.

(6)

(c) Use the formula

$$f'(x_i) \approx \frac{3f(x_i) - 4f(x_i - h) + f(x_i - 2h)}{2h}$$

to approximate the derivative of f(x) = sin x at $x_i = \pi$, taking h = 1, 0.1, 0.01.

(6)

6.    (a) Approximate the value of $(\ln 2)^{\frac{1}{3}}$ from $\int_0^1 \frac{x^2}{1+x^3} dx$

using Trapezoidal rule and Simpson's $\frac{1}{3}$ rule.

(6.5)

(b) Apply the Fleun method to approximate the solution of the initial value problem

$$\frac{dy}{dx} = \frac{1}{2}(1+x)y^2, \quad 0 \le x \le 1, \quad y(0)=1,$$

by using 5 steps.                                    (6.5)

(c) Given the initial value problem (IVP):

$$\frac{dy}{dx} = \frac{e^x}{y}, \quad y(0)=1.$$

Find y(0.5) and y(0.75) by using the modified

Euler's method. Also find the absolute error at

each step given, that the exact solution of the

IVP is $y = \sqrt{2e^x - 1}$. (6.5)

b

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : **6214**        **E**

Unique Paper Code        : 32225415

Name of the Paper        : Thermal Physics and Statistical Mechanics

Name of the Course       : **B.Sc. Hons.-(Physics)_GE Paper**

Semester                 : IV

Duration : 3 Hours                Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  Attempt **five** questions in all, including Question No. **1** which is compulsory.

3.  **All** question carry equal marks.

4.  Symbols have their usual meaning.

5.  Given value of Boltzmann Constant $(k_B)$ = $1.38 \times 10^{-23}$ $m^2 kgs^{-2}K^{-1}$).

P.T.O.

**6214**

1. Answer any **five** of the following : (3×5=15)

(a) Two moles of a perfect monoatomic gas, initially kept in a cylinder at STP, are made to expand until its volume is doubled. Show the process on a P-V diagram if it is carried out (i) adiabatically, (ii) isobarically, (iii) isothermally.

(b) Two ideal gases at initial pressure $P_1$ and volume $V_1$ are made to expand adiabatically to a final volume equal to four times the original volume. If the values of $\gamma$ for these gases are 1.67 and 1.40, respectively, compare their final pressures.

(c) A reversible heat engine converts one sixth of the heat input into work. When the temperature of the sink is reduced by 62°C, its efficiency is doubled. Calculate the temperatures of the source as well as the sink.

(d) Establish the expression for work done during an adiabatic process.

(e) Name the three transport phenomena in a gas. What role is played by molecular collisions in these phenomena?

(f) Show that the ratio of the adiabatic and isothermal elasticities for any substance is equal to the ratio of their specific heats at constant pressure and volume.

(g) Define the terms microstate and macrostate of a thermodynamic system.

2. (a) Explain reversible, irreversible and quasistatic processes with the help of examples. (6)

(b) On the basis of the first law of thermodynamics, establish the expression for $C_P - C_V$ for a perfect gas. (5)

(c) The temperature of 5 g of air is raised by 1°C at constant volume. Calculate the increase in its internal energy in Joules. (Given $C_V = 0.172$ cal $g^{-1}$ °C$^{-1}$ and 1 cal = 4.18 J) (4)

3. (a) Explain Carnot's cycle with the help of a diagram. Derive the expression for the efficiency of a Carnot engine. (10)

(b) Calculate the change in entropy when 1 kg water at 27°C is converted into superheated steam at 200°C under constant atmospheric pressure. Specific heat capacity of liquid water is 4180 J/kg/K; temperature dependence of specific heat capacity of steam is given by the relation (1670 + 0.49 T) J/kg/K at T Kelvin. Take latent heat of steam as $23 \times 10^5$ J/kg. (5)

4. (a) State the law of equipartition of energy and apply it to derive the specific heat of monoatomic, diatomic and linear triatomic gases. (8)

P.T.O.

(b) Derive the expression for the coefficient of viscosity on the basis of kinetic theory of gases. What are the factors on which viscosity depends?

(5,2)

5. (a) Explain the distribution of energy of a black body at different temperatures by drawing the graphs. Discuss the laws which explain the energy spectrum.

(5,5)

(b) Two large closely spaced concentric black body spheres are maintained at temperatures of 400K and 600K respectively. The space between the two spheres is evacuated. Calculate the net rate of energy transfer between the two spheres.

(5)

6. Describe the Joule-Thomson porous-plug experiment and discuss the results. Hence obtain the expression for Joule-Thomson coefficient. What is temperature of inversion?

(7,5,3)

7. (a) Derive an expression for thermodynamic probability and the most probable distribution function for a system obeying Bose-Einstein statistics.

(10)

(b) Derive the expression $S = k_B logW$ where symbols have their usual meanings.

(5)

(1000)

[is question paper contain: 8 printed pages.]

No. of Question Paper :  910                    F

que Paper Code        : ᴜ034001210

ie of the Paper       : ！ndividual and Society

ie of the Course      : ᴳE : **English**

ester                 : I

ition : 3 Hours                  Maximum Marks : 90

## ructions for  Candidates

Write your Roll No. on the top immediately on receipt of this question paper.

This question paper contains **2** parts. **Both** parts are **COMPULSORY**.

Candidates have to answer **All** questions in **Part A** and **Any** 3 questions in **Part B**.

Questions in **Part A** carry **10** marks each and questions in **Part B** carry **20** marks each.

**PART A** Total marks — 3×10=30 marks

1. (a) With the naïve devotion of Shabari I arranged the food on your plate

   But the moment you looked at the plate, your face changed

   With a smirk you said Oh My – Do you serve chutny

   **koshimbir** this way?

   You still don't know how to serve food

   Truly, you folk will never improve.

   (i) Identify the poem and the poet. (2)

   (ii) Bring out the significance of the reference to Shabari in the poem and also comment on the use of the words "you folk". (4)

   (iii) Bring out the symbolic importance of food in the poem. (4)

we're truckers of another kind,

looking hopefully (years away

from Sialkot and Chandigarh)

for the taste of our mother's

hand in the cooking.

(i) Identify the poem and poet and explain the reference to 'Sunday' in the first line.    (2)

(ii) Explain the significance of "Wembley, the Lahore Karhai", and why it is a "pilgrimage" for the visitors    (4)

(iii) Examine the role of nostalgia and memory in the poem.    (4)

**OR**

(b) What does Naomi Klein mean by the "reign of logo terror"? Explain with examples.                    (10)

PART B                    Total marks— 3×20=60 marks.

4.    (a) Education of the masses is central to Phule's vision of change. Discuss his critique of the British education policy in the light of this statement.

                                                    (20)

OR

(b) Critically examine Valmiki's representation of the impediments to the Dalit child's struggle for education.

5.    (a) Henry Reed's "Naming of Parts" functions as an ironic comment on the unnaturalness of war. It juxtaposes the world of nature with that of military warfare, Discuss.                    (20)

## OR

(b) With reference to Any TWO writers from your course, examine how the senselessness *and* the trauma of war and conflict is underlined by them

6. (a) 'Colombe' employs the figure of Christopher Columbus to comment on Western expansionism from the point of view of the colonized. Discuss and elaborate. (20)

## OR

(b) Critically comment on how Chitra Baneijee Divakaruni uses cultural symbols like food and cinema to bring out the day-to-day, lived, quality of the immigrant experience in 'Indian Movie, New Jersey'

(a) Literature can effect a change in social attitudes by drawing attention to societal evils and inequalities. Elaborate with reference to Any TWO writings prescribed in your course. (20)

1910　　　　　　8

OR

(b) With reference Any **TWO** writers from your course, examine how literary representations engage with larger social and political structures and events.

Your Roll No...............

Sr. No. of Question Paper : 1920          F

Unique Paper Code          : 2274001201

Name of the Paper          : Principles    of    Macro
                             Economics – 1

Name of the Course         : **B.A. (Prog.)**

Semester / Type            : II / GE

Duration : 3 Hours                    Maximum Marks : 90

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  This question paper contains **8** questions.

3.  Attempt any **five** questions.

4.  Each question carries **18** marks.

5.  Use of a simple calculator is allowed.

6.  Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

P.T.O.

(iv) Net factor payments from abroad

(v) Private saving

(vi) Government saving

(vii) National saving

(क) आर्थिक गतिविधि को मापने के तीन दृष्टिकोण क्या हैं? वे समान उत्तर क्यों देते हैं? व्याख्या करें।

(ख) एक अर्थव्यवस्था के बारे में निम्नलिखित जानकारी दी गई है :

सकल निजी घरेलू निवेश = 40

वस्तुओं और सेवाओं की सरकारी खरीद = 30

सकल राष्ट्रीय उत्पाद (GDP) = 200

चालू खाता शेष = -20

कर = 60

घरेलू निजी क्षेत्र को सरकारी हस्तांतरण भुगतान = 25

सरकार से घरेलू निजी क्षेत्र को ब्याज भुगतान = 5

(मान लें कि सरकार द्वारा सभी ब्याज भुगतान घरेलू परिवारों को जाते हैं)

शेष विश्व से प्राप्त साधन आय = 7

शेष विश्व को किया गया कारक भुगतान = 9

यह मानते हुए कि सरकारी निवेश शून्य है,

निम्नलिखित ज्ञात कीजिए :

  (i)   उपभोग

  (ii)   शुद्ध निर्यात

  (iii)   सकल घरेलू उत्पाद

  (iv)   विदेश से शुद्ध कारक भुगतान

  (v)   निजी बचत

  (vi)   सरकार की बचत

  (vii)   राष्ट्रीय बचत

3.   (a) What do you mean by cyclically adjusted surplus and why it might be more useful than the actual or unadjusted budget surplus? (Diagram required)

                                             (10)

  (b) What do you mean by business cycle? Explain the four stages of business cycle with the help of diagram.

                                             (8)

(क) चक्रीय रूप से समायोजित अधिशेष से आपका क्या तात्पर्य है और यह वास्तविक या असमायोजित बजट अधिशेष से अधिक उपयोगी क्यों हो सकता है? (आरेख आवश्यक)

(ख) व्यापार चक्र से आप क्या समझते हैं? व्यापार चक्र के चार चरणों को चित्र की सहायता से समझाइए।

4. (a) What do you mean by unintended inventory investment? Explain the situation when it becomes negative and positive with help of diagram.  (8)

(b) Suppose we have an economy with the following function :  (10)

$$C = 50 + 0.8Y_d$$

$$I = 70$$

$$G = 200$$

$$TR = 100$$

$$t = 0.20$$

(i) Calculate the equilibrium level of income and the multiplier in this model.

(ii) Calculate budget surplus, BS.

(iii) Suppose that t increases to 0.25. What is the new equilibrium income? And the new multiplier?

(iv) Calculate the change in the budget surplus. Would you expect the change in the budget surplus to be more or less if c = 0.9 rather than 0.8?

(v) Can you explain why the multiplier is 1 when t = 1?

(क) अनपेक्षित इन्वेंट्री निवेश से आपका क्या तात्पर्य है? उस स्थिति को रेखाचित्र की सहायता से समझाइए जब यह नकारात्मक और सकारात्मक हो जाती है।

(ख) मान लीजिए कि हमारे पास निम्नलिखित फलन वाली अर्थव्यवस्था है :

$C = 50 + 0.8Y_d$

$I = 70$

$G = 200$

$TR = 100$

$t = 0.20$

(i) इस मॉडल में आय के संतुलन स्तर और गुणक की गणना करें।

(ii) बजट अधिशेष, BS की गणना करें।

(iii) मान लीजिए कि. बढ़कर 0.25 हो जाता है। नई संतुलन आय क्या है? और नया गुणक?

(iv) बजट अधिशेष में परिवर्तन की गणना करें। क्या आप उम्मीद करेंगे कि यदि $c = 0.8$ के बजाय 0.9 हो तो बजट अधिशेष में बदलाव कम या ज्यादा होगा?

(v) क्या आप बता सकते हैं कि जब $t = 1$ है तो गुणक 1 क्यों है?

5. (a) How are desired consumption and desired savings affected by increase in current income expected future income and wealth? (9)

(b) Explain the goods market equilibrium in the open economy. (With the help of diagram) (9)

(क) वर्तमान आय में अपेक्षित भविष्य की आय और परिसंपत्ति में वृद्धि से वांछित उपभोग और वांछित बचत कैसे प्रभावित होती है?

(ख) खुली अर्थव्यवस्था में वस्तु बाजार संतुलन की व्याख्या करें। (रेखाचित्र की सहायता से)

6. (a) Why do we call mechanisms such as proportional income taxes and the welfare system automatic stabilizers? Explain carefully how and why these mechanisms affects fluctuations in output. (10)

(b) Explain the concept of money multiplier. What is the relationship between supply of money, demand for money and money multiplier? (8)

(क) हम आनुपातिक आय कर और कल्याण प्रणाली जैसे तंत्रों को स्वचालित स्टेबलाइजर्स क्यों कहते हैं? ध्यान से समझाएं कि ये तंत्र आउटपुट में उतार-चढ़ाव को कैसे और क्यों प्रभावित करते हैं।

(ख) मुद्रा गुणक की अवधारणा को समझाइये। मुद्रा की आपूर्ति, मुद्रा की मांग और मुद्रा गुणक के बीच क्या संबंध है?

7. (a) What do you mean by multiplier? Show the effects of changes in fiscal policy on the equilibrium level of income. (With the help of diagram) (10)

(b) Suppose that a person's yearly income is $60000. Also suppose that this person's money demand

function is

$$M^d = \$Y (0.35 - i)$$

(i) What is this person's demand for money when the interest rate is 5% and 10% respectively?

(ii) Using part (i), explain graphically how interest rate affect money demand.

(iii) Suppose that the interest rate is 10%. In percentage terms, what happens to this person's demand for money if her yearly income is reduced by 50%?

(iv) Suppose that interest rate is 5%. In percentage terms, what happens to this person's demand for money if her yearly income is reduced by 50%?          (8)

(क) गुणक से आप क्या समझते हैं? आय के संतुलन स्तर पर राजकोषीय नीति में परिवर्तन के प्रभावों को दिखाएँ। (रेखाचित्र की सहायता से)

(ख) मान लीजिए कि किसी व्यक्ति की वार्षिक आय $60000 है। यह भी मान लें कि इस व्यक्ति का धन माँग फलन 08 है

$$M^d = \$Y\,(0.35 - i)$$

(i) जब ब्याज दर क्रमश: 5% और 10% है तो इस व्यक्ति की मुद्रा की मांग क्या है?

(ii) भाग (i) का उपयोग करते हुए, ग्राफिक रूप से समझाएं कि ब्याज दर मुद्रा की मांग को कैसे प्रभावित करती है।

(iii) मान लीजिए कि ब्याज दर 10% है। प्रतिशत के संदर्भ में, यदि इस व्यक्ति की वार्षिक आय 50% कम हो जाती है तो मुद्रा की मांग का क्या होगा?

(iv) मान लीजिए कि ब्याज दर 5% है। प्रतिशत के संदर्भ में, यदि इस व्यक्ति की वार्षिक आय 50% कम हो जाती है तो मुद्रा की मांग का क्या होगा?

8. (a) What do you mean by output gap? Explain positive and negative output gap. (8)

(b) Write a short note on the following : (10)

   (i) Implicit Deflator

   (ii) Corn Economy

   (iii) Open market operations

(iv) Actual reserve ratio

(v) Potential GDP

(क) आउटपुट गैप से आप क्या समझते हैं? सकारात्मक और नकारात्मक आउटपुट अंतर को समझाइए।

(ख) निम्नलिखित पर एक संक्षिप्त टिप्पणी लिखें :

    (i) अंतर्निहित अपस्फीतिकारक,

    (ii) मकई अर्थव्यवस्था,

    (iii) खुले बाजार संचालन,

    (iv) वास्तविक आरक्षित अनुपात,

    (v) संभावित सकल घरेलू उत्पाद।

Your Roll No..............

Sr. No. of Question Paper :  1925                    F

Unique Paper Code         :  2294001202

Name of the Paper         :  Disaster Management

Name of the Course        :  **Common Program Group (GE)**

Semester                  :  II

Duration : 3 Hours                    Maximum Marks : 90

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  Attempt any **5** questions.

3.  **All** questions carry equal marks.

4.  Use of stencils is permitted.

5.  Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

P.T.O.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. कोई 5 प्रश्न कीजिये ।

3. **सभी प्रश्नों के अंक समान हैं ।**

4. मानचित्र स्टेंसिल के प्रयोग की अनुमति है ।

5. इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. Distinguish between hazards and disasters. How can disasters be classified?

   खतरा और आपदा के बीच अंतर स्पष्ट कीजिए । आपदाओं का वर्गीकरण किस प्रकार किया जा सकता है ?

2. Describe disaster management cycle explaining the different phases.

   आपदा प्रबंधन चक्र के विभिन्न चरणों को समझाते हुए इसका वर्णन कीजिये ।

3. Discuss the concept of community based disaster management and its role in disaster management of a region.

समुदाय आधारित आपदा प्रबंधन की अवधारणा और किसी क्षेत्र के आपदा प्रबंधन में इसकी भूमिका पर चर्चा कीजिये ।

4. 'Floods are the most inevitable and lethal of natural disasters in India'. Explain.

'भारत में बाढ़ प्राकृतिक आपदाओं में सबसे अपरिहार्य और घातक है ।' स्पष्ट कीजिये ।

5. Discuss the risk of earthquake in India and elaborate on its mitigation measures.

भारत में भूकंप के खतरे पर चर्चा करें और इसके शमन उपायों पर विस्तार से चर्चा करें ।

6. Describe various types of human-induced disasters with particular emphasis on fire incidents.

आग की घटनाओं पर विशेष जोर देते हुए विभिन्न प्रकार की मानव-प्रेरित आपदाओं का वर्णन कीजिये ।

7. Elaborate on global strategies for disaster management.

आपदा प्रबंधन के लिए वैश्विक रणनीतियों पर विस्तार से चर्चा कीजिये ।

8. Discuss in detail the Disaster Management Act, 2005 of India.

भारत के आपदा प्रबंधन अधिनियम, 2005 की विस्तार से चर्चा कीजिये ।

9. Write short notes on **any two** :-

किन्हीं **दो** पर संक्षिप्त टिप्पणियाँ लिखें :

(a) Vulnerability

भेद्यता

(b) Drought disaster management in India

भारत में सूखा आपदा प्रबंधन

(c) Nuclear Disaster

परमाणु आपदा

(d) PM 10 Point Agenda on Disaster Risk Reduction

प्रधान मंत्री आपदा संकट न्यूनीकरण 10 सूत्री एजेंडा

20

[This question paper contains 16 printed pages.]

Your Roll No...............

**Sr. No. of Question Paper : 2012**　　　　　　**F**

Unique Paper Code 　　　　 : 2344001201

Name of the Paper 　　　　 : Data Analysis and Visualization Using Python

Name of the Course 　　　 : **Computer Science: Generic Elective (G.E.)**

Semester 　　　　　　　　 : II

Duration : 3 Hours 　　　　　　 Maximum Marks : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. This question paper has **two** sections **A** and **B**.

3. Question **1** in **Section A** is compulsory.

4. Attempt any **4** questions from **Section B**.

5. Parts of a question must be attempted together.

6. **Section A** carries **30** marks and each question in **Section B** carries **15** marks.

7. Use of Calculator is not allowed.

P.T.O.

## Section A

Assume numpy has been imported as np and pandas has been imported as pd.

1.  (a) Explain unimodal, bimodal and multimodal distribution with the help of examples.  (5)

    (b) Consider the DataFrames First and Second given below :  (5)

| One | Two |
|-----|-----|
| 0 | 'A' |
| 2 | 'B' |
| 5 | 'D' |
| 6 | 'C' |

First

| One | Two |
|-----|-----|
| 0 | 'B' |
| 1 | 'C' |
| 5 | 'E' |
| 2 | 'A' |

Second

Consider the following python code segment :

right = pd.merge(first, second, how='right', on='One')

left = pd.merge(first, second, how='inner', on='Two')

**Show the content of the new DataFrames right and left.**

(c) Write python commands to create a figure object using matplotlib. The Figure object has one subplot that contains 3 line graphs. Define legend and chart title of the graph. Define a different style and colour for each line in the subplot. Import appropriate libraries.        (5)

(d) List and describe the steps involved in process of Data Analysis.        (5)

(e) Give the output of the following code snippets:        (4)

    (i) 
```
y=np. arange(12).reshape(4,3)

print(y)

y[(y > 5)] = -1

print(y)
```

    (ii) 
```
x = np.array ([[2, 4], [5,1]])

z=np.ones_like(x)

print(z)

w=np.eye(2) * x

print(w)
```

(f) Consider the series S1 and S2 given below : (6)

| | S1 | | S2 | |
|---|---|---|---|---|
| A | 1 | A | 5 |
| B | 2 | B | 6 |
| C | 3 | D | 7 |
| D | 4 | E | 8 |

Give the output of the following python pandas commands :

(i) S1 [: 3] * 10

(ii) S1 + S2

(iii) S2 [: : −1] * 5

## Section B

2. (a) Consider the DataFrame Frame given below : (7)

| Name | Age | Weight | Height |
|---|---|---|---|
| Ram | 15 | 45.6 | 140 |
| Ravi | 23 | 34.9 | 160 |
| Reena | 32 | 45.6 | 145 |
| Rita | 20 | 60.7 | 155 |
| Rishi | 33 | 54.7 | 170 |
| Romi | 21 | 34.6 | 144 |

Write python commands to perform the following operations :

(i) Compute the correlation of Age with both Weight and Height.

(ii) Sort Frame in descending order of Age.

(iii) To find the index for the row with minimum Age.

(iv) Calculate cumulative sum for Weight for all Students.

(v) To set height of 'Rita' and 'Romi' to NA.

(vi) Replace the value 32 with 18 and 33 with 19 in Age column.

(vii) Define map function to convert values of Name column to upper case.

(b) Refer to the DataFrame Frame given in question 2 (a), Write a python program to perform the following operations in the given dataset with columns Name, Age, Weight, Height. (8)

(i) Create a figure and include 2 subplots in it.

(ii) In the first subplot create a scatter plot between two variables Age and Height.

(iii) In the second subplot draw a horizontal bar plot between Name and Weight.

(iv) Set the title for the figure as 'Data Analysis'.

(v) Give appropriate labels for x and y axis.

(vi) Save the figure to file with name 'analysis.png'.

3.    (a) Consider the following numpy array matrix :

(10)

[[5,10,20],

[20,13,43],

[34,27,67],

[12,46,77]]

Give the output of the following numpy commands :

(i) matrix.T

(ii) matrix[:1,1:]

(iii) matrix[[1,3,0],[2,1,0]]

(iv) matrix[[−2,−4]]

(v) matrix[[True, False, False, True]]

(vi) matrix[3] [:2]

(vii) matrix[::−1]

(viii) matrix.ndim

(ix) np.swapaxes(matrix, 1, 0)

(x) matrix+10

(b) Consider the following DataFrame df.     (5)

| Items | Sugar Type | Price |
| --- | --- | --- |
| Yogurt | Low Fat | 45 |
| Chips | Regular | 30 |
| Soda | Low Fat | 50 |
| Yogurt | High Fat | 70 |
| Cake | Regular | 140 |
| Chips | Low Fat | 40 |
| Yogurt | Regular | 50 |

Give commands to perform the following operations:

(i) List the name of unique items sold.

(ii) Count the number of times each value in items is stored.

(iii) Delete the rows which have duplicate values of Items.

(iv) Give the average price of all Low Fat items.

(v) Check if 'Juice' ims one of the items sold.

4.  (a) Consider the DataFrame data given below.   (4)

| One | Two | Three | Four | Five |
|-----|-----|-------|------|------|
| 1 | 14 | 34 | NaN | NaN |
| 34 | 21 | NaN | 12 | NaN |
| NaN | 23 | NaN | 2 | NaN |
| 34 | 21 | 32 | 33 | NaN |

Write python commands to perform the following operations :

(i) Drop columns with any null values.

(ii) Replace the null values with the mean of each column.

(iii) Drop the null values where there are at least 2 null values in a row.

(iv) Replace all null values by the last known valid observation.

(b) What are outliers? How can you detect outliers using boxplots? (5)

(c) Consider the given numpy array mat : (6)

mat = np.array([[[−1,2], [3,4]], [[−5,6], [7,8]]])

Write numpy commands to perform the following operations :

(i) Create an array of zeros with the same shape as mat.

(ii) Print the shape of the mat.

(iii) Print the datatype of the elements in mat.

(iv) Print the elements which are greater than 6 in mat.

(v) Convert all the elements in mat as float type.

(vi) Multiply each element in mat with 25.

5.  (a) Give the python commands to create a dictionary with 5 keys – 'A', 'B', 'C', 'D', 'E' and value as follows.    (10)

| Key | Value |
|-----|-------|
| A | List of numbers from 1 to 10 skipping 2 at a time. |
| B | List of Strings from A to E. |
| C | List of 5 numbers obtained using random normal distribution function. |
| D | List of 5 random integers from 20 to 30. |
| E | Square root of 5 random numbers from 50 to 70. |

Give python commands to perform the following operations :

(i) Create DataFrame data using the above dictionary.

(ii) Convert Column A to index.

(iii) Rename the rest of the columns as Area, Temperature, Latitude and Longitude.

(iv) Delete the column Longitude from data.

(v) Save data as a csv with separator as ';'.

(b) Write a python code to create a figure and a subplot using matplotlib functions. Plot a rectangle of size 3.5 x 8.5 at point (2.0, 7.0), a circle of radius 2.5 at point (7.0, 2.0) as patches in the subplot, functions for plotting. Set the colour of rectangle as 'Green' and color of circle as 'Blue'. Set the x-scale and y-scale to 1-10. Import appropriate libraries. (5)

6. (a) Consider the following dataset student. (10)

| Year | Name | Roll No | Marks | Age |
|------|------|---------|-------|-----|
| 1 | Rani | 23 | 70 | 18 |
| 2 | Rita | 24 | 75 | 20 |
| 3 | Raj | 25 | 80 | 22 |
| 1 | Rahul | 26 | 65 | 25 |
| 2 | Rohit | 27 | 80 | 28 |

Give the output of the following python commands :

(i) student [['Roll No ',' Name ']] [2 : 4]

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    (ii)  student [student ['Age'] >20]

    (iii)  student [student ['Age'] >20] ['Name']

    (iv)  avg_marks = np.mean (student.Marks)

        student[student['Marks']>avg_marks]

    (v)  first = student [student ['Year'] ==1]['Marks']

        np.mean(first)

(b) Consider the following list 11.          (5)

    11 = [10, 10, 20, 40, 50, 60, 70, 80, 90, 90]

Discretise the 11 into 4 bins using cut() and qcut(). Give the names ['first', 'second', 'third', 'fourth'] to the bins. What type of object is returned by the pandas after binning? What output is generated by attributes codes and categories of binning object?

7. (a) Consider the DataFrame df given below : (8)

| EmployeeID | Department | Salary | Age |
|---|---|---|---|
| 1001 | English | 1000 | 23 |
| 1002 | English | 1002 | 34 |
| 1003 | English | 1004 | 39 |
| 1004 | English | 1005 | 43 |
| 1003 | Maths | 1004 | 34 |
| 1004 | Maths | 1005 | 43 |
| 1001 | Maths | 1006 | 53 |
| 1002 | Maths | 1002 | 43 |

Write the python code to perform the following operations :

(i) Create a hierarchical index on Department and Employee ID.

(ii) Give the summary level statistics for each column.

(iii) Give the output for the following :

1. df.stack()

2. df.unstack()

(b) Give the output of the following code segment :

(4)

```
arr = np.array([89, 54, 76, 32, 47, 21, 92, 39, 82])

arr1 = arr[5:9]

arr2 = arr[5:9].copy()

arr1 = 36

arr2 = 7

print(arr)

print(arr1)

print(arr2)
```

(c) Consider the series a given below and give the output of the following commands : (3)

```
a = pd.Series([4, 1, 7, 1, 8, 9, 0, 8, 2, 3, 9])
```

(i) a.rank()

(ii) a.rank(method = 'first')

(iii) a.rank(ascending = False)

[This question paper contains 8 printed pages.]

Sr. No. of Question Paper : 2033          **F**

Unique Paper Code        : 2354001202

Name of the Paper      : Introduction to Linear Algebra

Name of the Course     : **GE**

Semester                 : II

Duration : 3 Hours           Maximum Marks : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **all** question by selecting **two** parts from each question.

3. Part of the questions to be attempted together.

4. **All** questions carry equal marks.

1. (a) If x and y are vectors in $\mathbb{R}^n$ then prove that

$$|x \cdot y| \leq (\|x\|)(\|y\|).$$

Also verify it for vectors $x = [-1, -1, 0]$ and

$$y = \left[ \sqrt{2}, \sqrt{2}, \sqrt{2} \right].$$

(b) Use Gaussian Elimination to solve the following system of linear equations. Indicate whether the system is consistent or inconsistent. Give the complete solution set, if consistent.

$$3x - 3y - 2z = 23$$

$$-6x + 4y + 3z = -40$$

$$-2x + y + z = -12$$

(c) Use Gauss-Jordan row reduction method to find the complete solution set for the following system of equations.

$$4x - 8y - 2z = 0$$

$$3x - 5y - 2z = 0$$

$$2x - 8y + z = 0$$

2.  (a) Define rank of a matrix. Find Rank of the matrix

$$A = \begin{bmatrix} 3 & 5 & 2 \\ 4 & 2 & 3 \\ -1 & 2 & 4 \end{bmatrix}.$$

(b) Find all Eigen values corresponding to the matrix A. Also, find the eigenspace for each of the eigen value of the matrix A, where $A = \begin{bmatrix} 12 & -51 \\ 2 & -11 \end{bmatrix}.$

(c) Let $A = \begin{bmatrix} 3 & 1 & -2 \\ 4 & 0 & 1 \\ -2 & 4 & -3 \end{bmatrix}.$ Determine whether the

vector $X = [5, 17, -20]$ is in row space of the matrix A. If so, then express X as a linear combination of the rows of A.

3.  (a) Let V be a vector space. Let H and K be subspaces of V. Prove that $H \cap K$ is also a subspace of V. Give an example to show that $H \cup K$ need not be a subspace.

(b) Prove or disprove that the set $S = \{$ [1,2,1], [1,0,2], [1,1,0]$\}$ forms a basis of $R^3$.

(c) Use the Diagonalization Method to determine whether the matrix A is diagonalizable. If so, specify the matrices D and P and verify that $P^{-1}AP = D$, where

$$A = \begin{bmatrix} 19 & -48 \\ 8 & -21 \end{bmatrix}.$$

4. (a) (i) Let $S = \{(x,y,z): x + y = z \; \forall x, y, z \in R\}$.
Show that S is a subspace of $R^3$.

(ii) Consider the vector space $M_{3\times3}(R)$ and the sets

$T_1$: the set of nonsingular 3×3 matrices

$T_2$: the set of singular 3×3 matrices.

Determine $T_1$ and $T_2$ are subspaces of $M_{3\times3}(R)$ or not?

Itimport

(b) Consider the linear Transformation $L: P_3(R) \to M_{2\times2}(R)$ given by

$$L(ax^3 + bx^2 + cx + d) \begin{bmatrix} -3a-2c & -b+4d \\ 4b-c+3d & -6a-b+2d \end{bmatrix}.$$

Find the matrix for L with respect to the standard basis for $P_3$ and $M_{2\times2}$. Also, Find the dimension of Ker(L) and Range(L).

(c) Let $L: P_3 \to P_4$ be given by

$$L(p) = \int p, \text{ for, } p \in P_3.$$

Where, $\int p$ represents the integration of p. Find the matrix for L with respect to the standard basis for $P_3$ and $P_4$. Use this matrix to calculate $L(4x^3 - 5x^2 + 6x - 7)$ by matrix multiplication.

6.

6.    (a) Let $L: R^3 \to R^3$ be given by

$$L\left(\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix}\right) = \begin{bmatrix} 5 & 1 & -1 \\ -3 & 0 & 1 \\ 1 & -1 & -1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix}.$$

(i) Is $[1, -2, 3]$ in Ker(L)? Why or why not?

(ii) Is $[2, -1, 4]$ in Range(L)? Why or why not?

(b) Consider the linear Transformation $L: M_{3 \times 3} \to M_{3 \times 3}$ given by

$$L(A) = A - A^T,$$

where, $A^T$ represents the transpose of the matrix A. Find the Ker(L) and Range(L) of the Linear Transformation, and verify

$$\dim(Ker(L)) + \dim(Range(L)) = \dim(M_{3 \times 3}).$$

(c) Suppose that $L: V \to W$ is a linear Transformation. Show that if $\{L(v_1), L(v_2), ..., L(v_n)\}$ is a linearly independent set of n distinct vectors in W, for

some vectors $v_1, v_2, ..., v_n \in V$, then $\{v_1, v_2, ..., v_n\}$ is linearly independent set in V. Is the converse true? Justify with examples. Under what condition the converse holds true, Justify.

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Sr. No. of Question Paper : 2045　　　　　　F

Unique Paper Code　　　: 2224001203

Name of the Paper　　　: Modern Physics

Name of the Course　　　: **GE : Physics**

Semester　　　　　　　: II

Duration : 3 Hours　　　　　　Maximum Marks : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt five questions in all.

3. Q 1 is compulsory,

4. All questions carry equal marks.

5. Use of Non-Scientific calculator is allowed.

1.  Attempt all the questions:

(a) A source of light of wavelength 500 nm with intensity $2W/m^2$ is incident normally on a photosensitive surface of area 2 $cm^2$. Determine the number of photons emitted per second, provided 5% of the incident photons produces photoelectrons.

(b) Enlist two shortcomings for the Rutherford Atomic model.

(c) Show that the nuclear density is independent of the number of nucleons.

(d) The half-life of a radioactive nucleus is 20 days. What is its decay constant and mean lifetime?

(e) What are the criteria for a well-behaved wave function?

(f) Is it possible for U-232 to decay into Pa-231 by emitting a proton? Given $m_{pa}$ = 231.035880 and $m_p$ = 1.007825.

2.  (a) When an X-ray photon is scattered by an electron (assumed to be initially at rest in the laboratory coordinate system), show that the change in the wavelength of the scattered photon is given by

$$\Delta\lambda = h/m_0 c \,(1 - \cos\theta)$$

where $m_0$ is the rest mass of the electron and $\theta$ is the angle through which the photon is scattered.

(b) Distinguish between Phase velocity and Group velocity. Obtain an expression for them and also deduce the relation between them for dispersive medium.

(c) The work function of Potassium is 2.2 eV. If UV light of wavelength 300 nm and intensity 2 W/m$^2$ is incident on the surface, then

    (i) determine the maximum kinetic energy of the photoelectrons.

    (ii) if 20% of the incident photons produce photoelectrons, how many electrons are emitted per second if the area of the Potassium surface is 4cm$^2$      (6,6,6)

3.   (a) Deduce Heisenberg's uncertainty principle for position and momentum using gamma ray microscope thought experiment.

(b) Explain in detail the double slit experiment with electrons. What inferences can be drawn from the experiment and hence show how it explains the dual nature of particles.

(c) Explain what are stationary states. Find the wavelength of spectral line that corresponds to a transition from n=5 to n=3 electronic state. In what part of the spectrum will it lie. (6,6,6)

4. (a) Starting from the time independent Schrodinger equation for a free particle in 1D, show that its solutions are eigen functions of both Energy and Momentum operators. Also find their eigen values.

(b) Obtain and draw the first two normalized wave functions and probability density graphs for a particle in one dimensional infinitely rigid box.

(c) Calculate the three lowest energy levels in eV for an electron inside a 1D infinite potential well of width 2 A°. Also find the corresponding normalised eigen function. (6,6,6)

5. (a) How are X-rays produced in an X-ray tube? Give the difference between continuous and characteristic spectrum of X-rays of any atom with the help ofa proper diagram. Hence, explain the concept of critical potential.

(b) Explain the concept of nuclear binding energy and packing fraction. Discuss graphically the variation of binding energy per nucleon with mass number, A, and hence explain the concept of nuclear stability and nuclear fission and fusion.

(c) Natural Thorium consists entirely of the Alpha radioactive isotope Thorium 232 which has a half-life of $1.4 \times 10^{10}$ years. If a rock sample known to have solidified 3.5 billion years ago contain 0.1% of Th-233 today, what was the percentage of this nuclide it contained when the rock solidified?

(6,6,6)

6. (a) What is the difference between spontaneous and stimulated emission in LASER. Which condition is necessary to achieve stimulated emission?

(b) Name and explain which conservation laws seemed to be violated in beta decay. How did Pauli resolve these discrepancies?

(c) Given half-life of $Po^{210}$ as 138 days. Calculate

(i) The decay constant of Po

(ii) The activity of 1 gram of Po

(iii) How many decays per second occur when the sample is one week old. (6,6,6)

[This question paper contains 4 printed pages.]

Your Roll No................

**Sr. No. of Question Paper :** 2061        **F**

Unique Paper Code      : 2035001002

Name of the Paper      : Digital Communication – I

Name of the Course    : **GE : English**

Semester               : II

Duration : 3 Hours           Maximum Marks : 90

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

## SECTION – A

Attempt ANY **three** from the section. Each question carries ten marks.

1. Write short notes on any **two** of the following :

                                   (2×5=10)

(a) Spam

(b) Influencers

(c) Blogs

P.T.O.

2. Personal and professional social media profiles differ from each other in content as well as style. List three such differences.

3. Write a short note on the significance of Keywords in a LinkedIn profile.

4. Expand any five of the following abbreviations commonly used on social media :

   DM, FOMO, G2G, HTH, IKR, IMO, NVM

5. In the age of digital communication, hardcopy letters will become obsolete. Do you agree? Discuss with relevant reasons.

## SECTION – B

Attempt ANY **three** from the section. Each question carries twenty marks.

6. You are organising a Literature Festival in your college. Draft the following messages in this regard. (Use formal and informal language appropriately).

(a) Write a WhatsApp message to student presenters who are visiting your college to participate. Welcome them to your college. Give them the details of the venue of the Festival, their reporting time and the time allocated for each event.

(b) Write a WhatsApp message for your own college students asking them to attend the Festival to be the audience. Tell them how their participation is going to help them. Give them the details of the Festival.

7. You are the president of the Book club of your college. Write an email to a famous writer who is popular among the youth, inviting him to inaugurate the Literature Festival that you are organising in your college.

8. You have a personal blog where you write about issues that are of concern to the youth. Write a blog, with appropriate hashtags, about the addictive nature of social media and suggest ways of overcoming it.

9. Use of LinkedIn has become a popular mode of online presence. Create a LinkedIn profile with the aim to connect with peers in your area of expertise. Write under the following headings: Summary/About, Experience, Education, Skills.

10. There are various kinds of vlogs - travel, educational, food, fashion, fitness, etc. If you were to create a vlog what kind would it be and why? Write a short script for the vlog of your choice.

Your Roll No...............

**Sr. No. of Question Paper : 2062**                    **F**

Unique Paper Code          : 2035001003

Name of the Paper          : English Fluency – 1

Name of the Course         : **GE : English**

Semester                   : II

Duration : 3 Hours                    Maximum **Marks : 90**

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  This question paper has **two** parts. **A** and **B**. **Both** parts are compulsory.

3.  Answer a total of **6** questions, of which **three** are from **Part A** and three are from **Part B**.

**2062**

## PART A

Answer any **three** questions :  (3×10=30)

1. You are getting late for your College and you decide to take a new, but shorter route. Unfortunately, your mobile gets snatched by two men on a bike. Write a diary entry of the incident.

2. Write a blog post on the advantages of social media platforms.

3. Write a paragraph on climate change.

4. Fill in the blanks with correct articles or prepositions :

    (1×10=10)

    (a) I like _____ English teacher who narrates incidents to highlight the text.

    (b) The tenants who live _____ that house work very hard.

(c)  It was a rainy day _____ July.

(d)  _____ reason she gave for missing school was not accepted.

(e)  Your shoes are lying _____ the floor.

(f)  Her room is _____ the kitchen.

(g)  Why are you _____ so late?

(h)  I'm going on a holiday _____ London.

(i)  I will be going _____ the market in the evening.

(j)  _____ reason for her absence is not known.

5.  Read the passage given below, identify 10 mistakes and rewrite the passage with corrections.          (10)

When you brake (1) it down to its basic, its only about knock (2) a ball around. Grown up men in fancy clothes, knocking a ball around. Amusing themselves;

providing amusement. Of course, there are good things on display: outstanding physical abilities, strenth (4), speed, skill. A good match of cricket is really only about these things. It doesn't help cure deseases (5); it doesn't add to the fund of human knowledge. But if you choice (6) to do so – and lovers of sport do it all the time – you can imbuu (7) it with a hundred deep meanings. Make a game a metaphor in (8) life – and its exertions and pirouettes find the meanings of struggle, morality, loss and triumph. The fact is more vaulting prose is written on the (9) single hard-fought game than in all the prase (10) of seers and scientists.

## PART B

Answer any **three** questions :        (3×20=60)

6. Read the passage below and answer the questions that follow :

So has young Nisha Sharma of Noida sparked a new anti-dowry movement? One would like to think this could happen. After all, the anti-dowry campaign of the late 1970s was triggered by one woman, Satyarani Chaddha, who decided to raise the banner against the custom when her own daughter was tortured and killed for not bringing a sufficient dowry. So an individual's actions can still have far-reaching repercussions. Any of us who think it is not worth doing something we believe in because we feel we are alone, should remember Nisha and Satyarani and many others like them.

Nisha has been widely feted and felicitated. Her courage has to be acknowledged but the media spotlight on an individual or several Nisha-like individuals, should not mask some of the harder questions that need to be asked. In Nisha's case, two issues stand out. One, parental support when she decided that the cash demand was too much.

Two, that until that line had been crossed both she and her parents went along with unreasonable demands and even deception in terms of the groom's qualifications.

It is this latter issue that one must look at more closely. For what are 'reasonable' demands? Why should there be any? Why 'demands'? can any of them be really 'reasonable'? in which other culture are girls expected to carry to their marital homes all the equipment for a house - washing machine, fridge, TV, furniture, cupboards, soft furnishings - as well as a car or scooter apart form loads of jewelry and clothes? How can even this be considered 'reasonable'?

(a) Answer the following questions in about 100 words each :                                    (3×5=15)

    (i) Who, according to you, is the 'heroine' of this article, and why?

(ii) Discuss the factors in favour of Nisha, which helped her call off her wedding?

(iii) Do you think there can be a 'reasonable demand' for dowry?

(b) From the passage given above, give the most appropriate synonyms to the words given below : (5×1=5)

(i) Tradition

(ii) Single

(iii) Aid

(iv) Fraud

(v) Awaited

7. Read the comprehension passage given above in Q6 and make notes in not more than 150 words.

(20)

8. Your cousin is visiting Delhi for the first time. Write a dialogue discussing the places you plan on taking her for sightseeing. **(20)**

9. Write an application for the post of a Student Coordinator, NSS, of your College in response to an advertisement on the College website. Also, attach your resume for the same. **(20)**

10. Write a letter to the Principal of your college requesting permission to host a conference on disability, giving all the required details. **(20)**

Your Roll No...............

Sr. No. of Question Paper : 2063          F

Unique Paper Code          : 2035001004

Name of the Paper          : English Language Through
                             Literature - I

Type of the Paper          : GE : Common Prog Group

Semester                   : II

Duration : 3 Hours                Maximum Marks : 90

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  The paper contains 3 unseen passages.

3.  Students will attempt SIX questions in all - this will include any THREE out of FIVE questions in Part A and any THREE out of FIVE questions in Part B.

4.  Both parts A + B have to be answered.

P.T.O.

**Passage 1.**

A nest is a structure in which an animal lies or keeps its young. Birds are well known for building nests for their eggs. Birds have been building nests for over 100 million years. Dinosaurs, the ancestors of birds, also built terrestrial nests over hundreds of millions of years. The diversity we see in bird's nests today is a result of these thousands of bird species, evolving in different environments, creating diverse ways to house and protect their families.

We think of architecture as a result of conscious design, purpose and aesthetic expression; there is, precisely, such architecture in avian nests. These are not unplanned constructions. These are shaped by a history of selection and functionality. Also, the diversity of materials used by birds to build nets is astonishing and birds arrive at this independently.

As adults, the birds go out into nature alone and gather materials to construct their nests which have very

specific structures. They have extraordinary building capacities which show both flexibility and innate way of interacting with the environment.

Interestingly, all nests perform a physical job to house and protect a bird's eggs from bad weather and predators. The nest is also often the location of the development of the young. Therefore, knowing the nest's centrality, birds have developed habitat-based strategies to meet these needs. Birds build nests in trees, in bushes, in caves, on high rock ledges, or on buildings. Diverse species use twigs, sticks, feathers, plant fuzz, webs of mud, handled in specific ways to create the nest they require. Some birds use saliva to bind the materials together. Like human builders, birds choose materials related to the actual structure they want.

Birds' nests also have regular styles of construction – historically conditioned by circumstances, like human communities which use bricks or stones. Birds have a

similar historical investment in their nests. For instance, a group of land birds, which includes kingfishers, hornbills and woodpeckers is about 60 million years old. All of these nest in holes, from ground burrows to holes in trees, where they can safely keep their eggs. Apart from safety, nests also provide shelter and can be used as camouflage to protect birds from their predators. None of them has created an alternative to nests. Nests are, therefore, conservative structures - birds don't change the design much, unless they are sure they are improving on the conditions required for breeding and protecting their young.

Many birds build cup-shaped nests. Others make dome nests or nests that hang from tree limbs like long bags. The size of the nest depends on the type of bird. A hummingbird's nest is no bigger than a baby's fist. Now weaver birds are an extraordinary example of a group of birds that makes impressive nests. These include an egg chamber suspended from a branch, with a doorway. The complexity is amazing - the fibres are interlaced, like weaves.

This creates very strong water-repellant structures. The weaver bird starts with a vertical ring, like a hoop, and adds a back hemisphere to this. It then weaves on the front to create a small door. Some species add a tubular passage to the back chamber - this can be up to five times the length of the nest. Birds in cold climates might line their nests with insulating materials, such as grass, to help keep the eggs warm. Birds in warmer regions might use rocks instead because the gaps allow better air flow to keep the eggs cool. While birds can be creative architects, several bird species have no nests and don't even scrape the ground before laying an egg; they find a spot and lay. Some species, such as the peregrine falcon, common murre, nightjar, short-eared owls, and emperor penguin, lay their eggs in the open or a relatively secluded spot without having a nested structure. (650 words)

**Passage 2.**

Nora: And you are proud to think of what you have done for your brothers.

Mrs Linde: I think I have the right to be.

Nora: I think so too. But now, listen to this; I too have something to be proud and glad of.

Mrs Linde: I have no doubt you have. But what do you refer to?

Nora: Speak quietly. Suppose Torvald were to hear! He mustn't on any account - no one in the world must know, Christine, except you.

Mrs Linde: But what is it?

Nora: Come here. (Pulls her down on the sofa beside her.) Now I will show you that I too have something to be proud and glad of. It was I who saved Torvald's life.

Mrs Linde: 'Saved'? How?

Nora: I told you about our trip to Italy. Torvald would never have recovered if he had not gone there

Mrs Linde: Yes, but your father gave you the necessary funds.

Nora (smiling): Yes, that is what Torvald and all the others think, but -

Mrs Linde: But -

Nora: Father didn't five us a shilling. I was the one found the money.

Mrs Linde: You? All that large sum?

Nora: Two hundred and fifty pounds. What do you think of that?

Mrs Linde: But, Nora, How could you possibly do it? Did you win a prize in the lottery?

Nora (contemplatively): In the lottery? There would have been no credit in it.

Mrs Linde: But where did you get it from, then?

Nora (humming and smiling with an air of mystery): Hm, hm! Aha!

Mrs Linde: Because you couldn't have borrowed it?

Nora: Couldn't I? Why not?

Mrs Linde: No, a wife cannot borrow without her husband's consent.

Nora (tossing her head): Oh, if it is a wife who has any head for business - a wife who has the wit to be a little bit clever -

Mrs Linde: I don't understand it at all, Nora.

Nora: There is no ned for you to. I never said I borrowed the money. I may have got it some other way. (Lies back on the sofa.) Perhaps I got it from some admirer. When anyone is attractive as I am

Mrs. Linde: You are a mad creature.

Nora: Now, you know you're full of curiosity, Christine.

Mrs. Linde: Listen to me, Nora dear. Haven't you been a little bit impudent?

Nora (sits up straight): Is it imprudent to save your husband's life?

Mrs Linde: It seems to me imprudent, without his knowledge, to -

Nora: But it was absolutely necessary that he should not know! Mt goodness, can't you understand that? It was necessary he should have no idea what a dangerous condition he was in. It was to the doctors came and said his life was in danger, and that the only thing to save him was to live in the south. Do you suppose I didn't try, first of all, to get what I

wanted as if it were for myself? I told him how much I should love to travel abroad like other young wives; I tried tears and entreaties with him; I told him that he ought to remember the condition I was in, and that he ought to be kind and indulgent to me; I even hinted that he might raise a loan. That nearly made him angry, Christine. He said I was thoughtless, and that it was his duty as my husband not to indulge me in my whims and caprices as I believe he called them. Very well, I thought, you must be, saved - and that was how I came to devise a way out of the difficulty.

Mrs Linde: So it has all had to come out of your own necessities of life, poor Nora?

Nora: Of course. Besides, I was the one responsible for it. Whenever Torvald has given me money for new dresses and things like that, I have never spent more than half of it; I have always bought the simplest and cheapest things.

(650 words)

Passage 3.

First came the scream of the dying

in a bad dream, then the radio report,

and a newspaper: six shot dead, twenty-five

houses razed, sixteen beheaded with hands tied

behind their backs inside a church ...

As the days crumbled, and the victors

and their victims grew in number,

I hardened inside my thickening hide,

Until I lost my tenuous humanity.

I ceased thinking

of abandoned children inside blazing huts

still waiting for their parents.

If they remembered their grandmother's tales

of many winter hearths at the hour

of sleeping death, I didn't want to know,

if they ever learnt the magicof letters.

And the women heavy with seed,

their soft bodies mown down

like grain stalk during their lyric harvests;

if they wore wildflowers in their hair


while they waited for their men,

I didn't care anymore.

I burnt my truth with them,

and buried uneasy manhood with them.

I did mutter, on some far-off day:

"There are limits," but when the days ،

absolved the butchers, I continue to live

as if nothing happened.،

(176 words)

## Questions

## Part A

All questions carry 10 marks each.

Attempt any 3 questions out of 5.

Answers for all Part A

questions are to be written in 150-200 words.

Questions 1 and 2 are based on passage 1.

Question 3 is based on passage 2.

Question 4 and 5 are based on passage 3.

1. Why do birds build nests and what are the materials used for the same?

2. What is special about the nests of weaver birds?

3. What does Nora confide to Mrs Linde about?

4. Describe the situation the poet is writing about in your own words in a short paragraph.

5. Why does the poet feel that he has lost his humanity?

**Part B**

2063

All questions carry 20 marks each.

Attempt any 3 questions out of 5.

Answers for all Part B

questions are to be written in 300-350 words.

Questions 6 and 7 are based on passage 1.

Questions 8 and 9 are based on passage 2.

Question 10 is based on passage 3.

6. Write a precis of the given short essay and give it a title.

7. Are there any similarities in the building of nests to the building of homes for humans? Explain.

8. Why do you think Nora wants to keep the fact that she funded their trip to Italy a secret from her husband,

P.T.O.

Torvald?

9. What does the conversation between Nora and Mrs Linde reveal about the lives of women?

10. "I continue to live as if nothing happened" says the narrator in Passage 3. Is this a common response to life's tragedies? Discuss with reference to what you have understood from Passage 3.

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[This question paper contains 4 printed pages.]

**Sr. No. of Question Paper :** **2064**            **F**

Unique Paper Code              : 2055091001

Name of the Paper             : Hindi Bhasha aur Sahitya Ka Udbhav aur Vikas (A)

Name of the Course           : **GE : Hindi A**

Semester                            : II

Duration : 3 Hours                    Maximum Marks : 90

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।

2. सभी प्रश्न अनिवार्य हैं।

1. निम्नलिखित में से किन्हीं दो पर टिप्पणी लिखिए :            (10,10)

    (क) हिंदी भाषा का सामान्य परिचय

    (ख) पहाड़ी हिंदी की प्रमुख बोलियाँ

P.T.O.

(ग)  खड़ी बोली का क्षेत्र

(घ)  पूर्वी हिंदी

2. निम्नलिखित में से किन्हीं **दो** पर टिप्पणी लिखिए :　　　　(10,10)

(क)  सिद्ध साहित्य

(ख)  सूफी काव्य की प्रमुख प्रवृत्तियाँ

(ग)  भारतेन्दु युग

(घ)  प्रगतिवाद

3. कबीर की सामाजिक चेतना पर प्रकाश डालिए।　　　　(15)

### अथवा

'बिहारी का काव्य भक्ति, नीति और श्रृंगार का समन्वय है।' इस कथन पर विचार कीजिए।

4. नागार्जुन का साहित्यिक परिचय लिखिए।　　　　(15)

### अथवा

'हिमाद्रि तुंग श्रृंग' से कविता का प्रतिपाद्य लिखिए।

5. निम्नलिखित काव्यांशों की सप्रसंग व्याख्या कीजिए :          (10,10)

(क) कबीर गुर गरवा मिल्या, रलि गया आटैं लूँण ।

  जाति पाति कुल सब मिटे, नांव धरौगे कौंण ।

### अथवा

हरि म्हारा जीवन प्राण आधार ।

और आसिरो ना म्हारा थें विण, तीनूँ लोक मँझार ।

थें विण म्हारे जग ना सुहावाँ, निरख्या सब संसार ।

मीराँ रे प्रभु दासी रावली, लीज्यो णेक निहार ।

(ख) उनके अलौकिक दर्शनों से दूर होता पाप था,

  अति पुण्य मिलता था तथा मिटता हृदय का ताप था ।

  उपदेश उनके शांतिकारक थे निवारक शोक के

  सब लोक उनका भक्त था, वे थे हितैषी लोक के ।

### अथवा

कई दिनों तक चूल्हा रोया, चक्की रही उदास

कई दिनों तक कानी कुतिया, सोई उसके पास

कई दिनों तक लगी भीत पर छिपकलियों की गश्त

कई दिनों तक चूहों की भी हालत रही शिकस्त

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[This question paper contains 4 printed pages.]

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. सभी प्रश्न अनिवार्य हैं ।

1. (क) हिन्दी के उद्भव और विकास का संक्षिप्त परिचय दीजिए ।

(12)

अथवा

बिहारी हिन्दी की बोलियों का परिचय दीजिए ।

(ख) रामकाव्य धारा की विशेषताएं बताइए ।

## अथवा

प्रगतिवाद की प्रमुख विशेषताओं का वर्णन कीजिए ।

2. कबीरदास की भक्ति भावना की विवेचना कीजिए ।                    (12)

## अथवा

रामचरितमानस के आधार पर राम के स्वरूप का वर्णन कीजिए ।

3. बिहारी की काव्य – विशेषताएँ बताइए ।                    (12)

## अथवा

भूषण के काव्य वैशिष्ट्य पर प्रकाश डालिए ।

4. 'अरुण यह मधुमय देश हमारा' कविता के आधार पर प्रसाद की प्रकृति और देश-प्रेम की विवेचना कीजिए ।                    (12)

## अथवा

'अग्निपथ' कविता का भाव-सौंदर्य का स्पष्ट कीजिए ।

5. सप्रसंग व्याख्या कीजिए :

(क) साधु ऐसा चाहिए, जैसा सूप सुभाय।       (10)

सार-सार को गहि रहे, थोथा देइ उड़ाय।।

### अथवा

नाथ आजु मैं काह न पावा। मिटे दोष दुख दारिद दावा।।

बहुत काल मैं कीहि मजूरी। आजु दीन्ह बिधि बनि भलि भूरी।।

अब कछु नाथ न चाहिअ मोरें। दीनदयाल अनुग्रह तोरें।।

फिरती बार मोहि जो देबा। सो प्रसादु मैं सिर धरि लेबा।।

(ख) सटपटाति-सी ससिमुखवी मुख घुंघ-पटु ढांकि।      (10)

पावक-झर सी झमकि कै गई झरोखा झांकि।।

### अथवा

इन्द्र जिमि जंभ पर, बाडव ज्यौं अंभ पर।

रावन सदम्भ पर रघुकुल राज है।

पौन बारिवाह पर, संभु रतिनाह पर,

ज्यौं सहस्रबाहु पर राम द्विजराज है।।

(ग) बरसाती आँखों के बादल, बनते जहाँ भरे करुणा जल। (10)

लहरें टकराती अनंत की, पाकर जहाँ किनारा।।

हेम कुम्भ ले उषा सवेरे, भरती ढुलकाती सुख मेरे।

मंदिर ऊँघते रहते जब, जगकर रजनी भर तारा।।

## अथवा

यह महान दृश्य है,

चल रहा मनुष्य है,

अश्रु श्वेत रक्त से,

लथपथ लथपथ लथपथ,

अग्निपथ अग्निपथ अग्निपथ।

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[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : **2066**　　　　　**F**

Unique Paper Code　　　: 2055091003

Name of the Paper　　　: हिन्दी भाषा और साहित्य का उद्भव और विकास (GE) – C

Name of the Course　　　: **B.Com. (Programme)**

Semester　　　　　　　: II

Duration : 3 Hours　　　　Maximum Marks : 90

## छात्रों के लिए निर्देश

1.　इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2.　**सभी प्रश्न अनिवार्य हैं ।**

1.　निम्नलिखित में से किंही **दो** प्रश्नों के उत्तर दीजिये :– (12×12=24)

　　(i)　हिन्दी भाषा का अर्थ बताते हुए उसके स्वरूप पर विचार कीजिए ।

　　(ii)　ब्रजभाषा का सामान्य परिचय दीजिए ।

(iii) निर्गुण भक्तिकाव्यधारा की प्रमुख प्रवृत्तियों का सोदाहरण उल्लेख कीजिए ।

(iv) प्रगतिवाद की सामान्य विशेषताएँ बताइए ।

2. पाठ्यक्रम में संकलित कबीर की साखियों का सार अपने शब्दों में लिखिए । (12)

**अथवा**

सूरदास के काव्य कला पर प्रकाश डालिए ।

3. बिहारी के काव्य सौंदर्य का परिचय दीजिए । (12)

**अथवा**

घनानंद के काव्य में निहित प्रेम-व्यंजना पर विचार कीजिए ।

4. 'पुष्प की अभिलाषा' कविता के महत्व पर प्रकाश डालिए । (12)

**अथवा**

"रोटी और संसद" कविता का प्रतिपाद्य लिखिए ।

5. सप्रसंग व्याख्या कीजिए :–                (10×3=30)

(क) गुरु गोविन्द दोऊ खड़े, काके लागू पांय ।

बलिहारी गुरु आपने जिन गोविंद दियों बताय ।।

पाहन पूजै हरि मिले, तो मै पूजों पहार ।

याते ये चक्की भली, पीसि खाय संसार ।।


<div align="center">अथवा</div>


उधो, मन न भए दस बीस ।

एक हुतो सौ गयौं स्याम संग, को अवराधे ईस ।।

सिथिल भई सबहीं माधौ बिनु जथा देह बिनु सीस ।

स्वासा अटकिरही आसा लगि, जीवहिं कोटि बरीस ।।

तुम तो सखा स्यामसुन्दर के, सकल जोग के ईस ।

सूरदास, रसिकन की बतिया पुखों मन जगदीस ।


(ख) मेरी भव-बाधा हरौ, राधा नागरि सोइ

जा तन की झाईं परे, स्यामु हरित दुति होई ।।

कहत, नटत, रीझत, खिझत, मिलत, खिलत, लजियात ।

भरे भौन में करत हैं, नैननु ही सब बात ।।


<div align="center">अथवा</div>


<div align="right">P.T.O.</div>

राॉरे रूप की रीति अनूप, नयो नयो लागत ज्यों ज्यों निहारियै।

त्यौं इन आँखिन बानि अनोखी, अधानि कहूँ नहिं आनि तिहारियै॥

एक ही जीव हुतौ सु तो वायौ, सुजान, संकोच औ सोच सहारियै।

रोकौ रहै न, दहै घनआनंद बावरी रीझि के हाथन हारियै॥

(ग) चाह नहीं मैं सुरबाला के, गहनों में गूंथा जाऊँ।

चाह नहीं प्रेमी-माला में बिंध, प्यारी को ललचाऊँ।

चाह नहीं सम्राटों के शव पर, हे हरि डाला जाऊ।

चाह नहीं देवों के सिर पर चढ़ूँ भाग्य पर इठलाऊँ।

मुझे तोड़ लेना बनमाली, उस पथ पर देना तम फेंक।

मातृभूमि पर शीश चढ़ाने, जिस पथ जावें वीर अनेक

### अथवा

एक आदमी रोटी बेलता है

एक आदमी रोटी खाता है

एक तीसरा आदमी भी है

जो न रोटी बेलता है, न रोटी खाता है

वह सिर्फ रोटी से खेलता है

मैं पूछता हूँ -

यह तीसरा आदमी कौन है?

मेरे देश की संसद मौन है।

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 2068     **F**

Unique Paper Code     : 2055201002

Name of the Paper     : हिंदी भाषा और साहित्य (ब) (B)

Type of the Paper     : GE

Name of the Course     : बी.ए. (प्रोग्राम) हिंदी

Semester     : II

Duration : 3 Hours         Maximum Marks : 90

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. सभी प्रश्न अनिवार्य हैं।

1. सन्दर्भ सहित व्याख्या कीजिये :

    (i) सतगुरु हम सूं रीझ्झि करि, एक कह्या प्रसंग ।

    बरस्या बादल प्रेम का, भीजी गया सब अंग ।।

P.T.O.

अथवा

कृपासिंधु बोले मुसुकाई। सोइ करुजेहिं तव नाव न जाई।

बेगि आनु जल पाय पखारू। होत बिलंबु उतारहि पारू।।

(ii) संभलो कि सुयोग न चला जाए

कब व्यर्थ हुआ सदुपाय भला

समझो न जग को निरा सपना

पथ आप प्रशस्त करो अपना

अखिलेश्वर हैं अवलंबन को

नर हो न निराश करो मन को ।

अथवा

धूप चमकती है चांदी की साड़ी पहने

मैके में आयी बेटी की तरह मगन है

फूली सरसों की छाती से लिपट गयी है

जैसे दो हमजोली सखियाँ गले मिली हैं

(iii) यह मेरी गोदी की शोभा, सुख सोहाग की है लाली

शाही शान भिखारिन की है, मनोकामना मतवाली ।

दीपशिखा है अँधेरे की, घनी घटा की उजियाली

उषा है यह काल भृंग की, है पतझर की हरियाली।

अथवा

देखते देखा मुझे तो एक बार

उस भवन की ओर देखा, छिन्नतार

देखकर कोई नहीं,

देखा मुझे उस दृष्टि से

जो मार खा रोयी नहीं

2.  निम्नलिखित प्रश्नों के उत्तर दीजिये ।                    (12×3=36)

   (i)   हिंदी भाषा पर एक संक्षिप्त लेख लिखिए।

अथवा

निर्गुण भक्तिकालीन काव्य की प्रमुख प्रवृतियों का विवेचन कीजिए।

   (ii)  कबीर की साखियों के आधार पर गुरु का महत्व स्पष्ट कीजिये।

अथवा

'केवट प्रसंग' का प्रतिपाद्य लिखिए ।

(iii) 'नर हो न निराश करो मन को' कविता में निहित संदेश को स्पष्ट कीजिए।

**अथवा**

'धूप' कविता में चित्रित ग्राम्य जीवन को स्पष्ट कीजिये ।

(iv) 'बालिका का परिचय' कविता का मूल भाव लिखिए।

**अथवा**

'वह तोड़ती पत्थर' कविता में चित्रित श्रम – चेतना को स्पष्ट कीजिये।

3. संक्षिप्त टिप्पणी लिखिए (कोई तीन)            (6×3=18)

    (क) बिहारी हिंदी

    (ख) सूफी काव्य

    (ग) आदिकाल की काव्य प्रवृतियां

    (घ) भारतेन्दुयुगीन काव्य

    (ङ) केदारनाथ अग्रवाल

[This question paper contains 4 printed pages.]

Your Roll No...............

**Sr. No. of Question Paper : 2069**  **F**

Unique Paper Code : 2055201003'

Name of the Paper : Hindi Bhasha Aur Sahitya (C)

Type of the Paper : GE

Name of the Course : **B.A. (Prog.) Hindi**

Semester : II

Duration : 3 Hours  Maximum Marks : 90

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. सभी प्रश्न अनिवार्य हैं।

1. सप्रसंग व्याख्या कीजिए : (3×8=24)

(क) माया दीपक नर पतंग, भ्रमि भ्रमि इवैं पडंत ।

कहै कबीर गुर ग्यान थैं, एक आध उबरंत ।।

सतगुर बपुरा क्या करै, जो सिपाही महै चूक ।

P.T.O.

भावै त्यूं प्रमोधि ले, ज्यूं बंसि बजाई फूंक ।।

अथवा

उधो, मन न भए दस बीस

एक हुतौ सो गयौ स्याम संग, को आराधै ईस ।।

इंद्री सिथिल भई केसव बिनु, ज्यौं देही बिनु सीस ।

आसा लागि रहति तन स्वासां जीवहिं कोटि बरीस ।।

तुम तो सखा स्याम सुन्दर के, सकल जोग के ईस ।

सूर हमारै नंद-नँदन बिनु, और नहीं जगदीस।।

(ख) कनक कनक ते सौ गुनी मादकता अधिकाय ।

वा खाये बौराये नर, वा पाएं बौराये ।

मेरी भंवबाधा हरौ, राधा नागरि सोइ ।

जा तन की झाँई परैं स्यामु हरित - दुति होइ ।।

अथवा

अति सूधो सनेह को मारग है जहां नेकु सयानप बांक नहीं ।

तहां सांचे चलैं तजि आपनपौ झझकैं कपटी जे निसांक नहीं ।

घनआनंद प्यारे सुजान सुनौ इत एक तें दूसरो आंक नहीं ।

तुम कौन धौं पाटी पढ़े हो लला मन लेहु पै देहु छटांक नहीं।।

(ग)　रत्न प्रवासिनी है वसुधा, अब समझ सका हूँ!

इसमें सच्ची समता के दाने बोने हैं,

इसमें जन की क्षमता के दाने बोने हैं,

इसमें मानव ममता के दाने बोने हैं,

जिससे उगल सके फिर धूल सुनहली फसलें

मानवता की – जीवन श्रम से हँसे दिशाएँ !

हम जैसा बोयेंगे वैसा ही पायेंगे !

### अथवा

लीक पर वे चलें जिनके

चरण दुर्बल और हारे हैं,

हमें तो हमारी यात्रा से बने

ऐसे अनिर्मित पन्थ प्यारे हैं ।

साक्षी हों राह रोके खड़े

पीले बांस के झुरमुट,

कि उनमें गा रहा है जो हवा

उसी से लिपटे हुए सपने हमारे हैं ।

2.　हिन्दी भाषा के उद्भव और विकास को रेखांकित लीजिए।

(12)

अथवा

आदिकालीन कविता की प्रमुख विशेषताएँ लिखिए।

3. कबीर की सामाजिक दृष्टि को स्पष्ट कीजिए ।    (12)

अथवा

सूरदास की भक्ति का सामाजिक संदर्भ स्पष्ट कीजिए ।

4. बिहारी के काव्य का कलापक्ष स्पष्ट कीजिए ।    (12)

अथवा

घनान्द 'प्रेम के पीर' के कवि हैं, स्पष्ट कीजिए ।

5. आह! धारती कितना देती है ? कविता का प्रतिपाद्य लिखिए। (12)

अथवा

सर्वेश्वर दयाल सक्सेना की कविता 'लीक पर वे चलें' की मूल चेतना को स्पष्ट कीजिए।

6. किन्हीं तीन पर टिप्पणी लिखिए ।    (3×6=18)

(क) हिन्दी का भौगोलिक विस्तार

(ख) राम भक्ति धारा

(ग) रीति काव्य को विशेषताएं

(घ) छायावाद    (2000)

Your Roll No.............

Sr. No. of Question Paper : 2085        F

Unique Paper Code : 2125001002

Name of the Paper : Punjabi Bhasha da Mudhla Padhar

Type of the Paper : GE

Name of the Course : **Common Prog. Group**

Semester : II

Duration : 3 Hours                     Maximum Marks : 90

**Instructions for Candidates**

ਨੋਟ: ਸਾਰੇ ਭਾਗ ਕਰਨੇ ਜ਼ਰੂਰੀ ਹਨ।

ਭਾਗ ਪਹਿਲਾ

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਅੱਖਰਾਂ ਨੂੰ ਕ੍ਰਮ ਅਨੁਸਾਰ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।                     (15)

ਜਾਂ

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨਾਲ ਸੰਬੰਧਿਤ ਲਗਾਂ-ਮਾਤਰਾਵਾਂ ਬਾਰੇ ਦੱਸਦਿਆਂ ਉਦਾਹਰਣ ਦਿੰਦਿਆਂ ਦੋ-ਦੋ ਸ਼ਬਦ ਬਣਾਓ।

ਭਾਗ ਦੂਜਾ

ਨੋਟ : ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਚਾਰ ਦੇ ਉੱਤਰ ਲਿਖੋ :          (10X4=40)

2. ਕੋਈ ਦਸ ਜਾਨਵਰਾਂ ਦੇ ਨਾਮ ਲਿਖੋ।

3. ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਨੂੰ ਉਦਾਹਰਣਾਂ ਸਹਿਤ ਵਿਆਖਨ ਕਰੋ।

4. ਕੋਈ ਦਸ ਕੁਦਰਤੀ ਵਸਤਾਂ ਦੇ ਨਾਮ ਲਿਖੋ।

5. ਕਿਰਿਆ ਬਾਰੇ ਦੱਸਦੇ ਹੋਏ ਵਾਕਾਂ ਵਿੱਚ ਇਸਦੀ ਵਰਤੋਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

6. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ **ਕਿਸੇ ਪੰਜ** ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇੱਕ ਸ਼ਬਦ ਲਿਖੋ :

   ਜੋ ਧੋਖਾ ਦੇਵੇ, ਜਿਹੜਾ ਸਭ ਨੂੰ ਪਿਆਰਾ ਹੋਵੇ, ਚਹੁੰ ਪੈਰਾਂ ਵਾਲਾ, ਪਸ਼ੂ, ਦੂਜਿਆ ਦਾ ਭਲਾ ਕਰਨ ਵਾਲਾ, ਲੋਹੇ ਦਾ ਕੰਮ ਕਰਨ ਵਾਲਾ, ਜਿਹੜੇ ਇੱਕੇ ਸਮੇਂ ਹੋਣ, ਨੱਕ ਵਿੱਚ ਬੋਲਣ ਵਾਲਾ

7. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ **ਕਿਸੇ ਇੱਕ** ਵਿਸ਼ੇ ਉੱਤੇ ਪੈਰਾ ਲਿਖੋ।

ਮੇਰੀ ਗਾਂ, ਮੇਰੀ ਪਸੰਦੀਦਾ ਪੁਸਤਕ, ਦੀਵਾਲੀ

8. ਹੇਠ ਲਿਖੇ ਕਿਸੇ ਪੰਜ ਸ਼ਬਦਾਂ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਕਰੋ :

Wright, West, Story, Lesson, Strong, Six, Jug

### ਭਾਗ ਤੀਜਾ

9. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਸੱਤ ਦੇ ਉੱਤਰ ਲਿਖੋ :                    (5X7 = 35)

     I.    **ਕਿਸੇ ਪੰਜ** ਸ਼ਬਦਾਂ ਦੀ ਚੋਣ ਕਰਦੇ ਹੋਏ ਵਿਰੋਧੀ ਸ਼ਬਦ ਲਿਖੋ :

                ਸੰਗਤ, ਸਰਦੀ, ਦੁਸ਼ਮਣ, ਅਮਨ, ਮਹਿੰਗਾ, ਨਿੰਦ, ਲੜਾਈ

     II.    ਹੇਠ ਲਿਖਿਆ ਵਿੱਚੋਂ **ਕਿਸੇ ਪੰਜ** ਸ਼ਬਦਾਂ ਦੇ ਸਮਾਨਾਰਥੀ ਸ਼ਬਦ ਲਿਖੋ :

                ਮੰਤਵ, ਅੰਤ, ਉਡੀਕ, ਚੰਗਾ, ਠੀਕ ਪ੍ਰਸੰਸਾ, ਸ਼ਾਂਤੀ

     III.    ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ **ਕਿਸੇ ਪੰਜ** ਬਹੁਅਰਥਕ ਸ਼ਬਦਾਂ ਦੇ ਦੋ-ਦੋ ਅਰਥ ਦੱਸੋ :

                ਸੂਤ, ਹਾਲ, ਕਹੀ, ਕਲੀ, ਖੱਟੀ, ਗੋਲ, ਸੂਆ

     IV.    **ਕੋਈ ਪੰਜ** ਫਲਾਂ ਦੇ ਨਾਮ ਦੇ ਨਾਮ ਦੱਸੋ।

     V.    ਪਹਿਰਾਵੇ ਨਾਲ ਸੰਬੰਧਿਤ ਪੰਜ ਨਾਮ ਦੱਸੋ।

     VI.    ਰੋਜ਼ਾਨਾ ਕੰਮਕਾਜ ਵਿੱਚ ਵਰਤੇ ਜਾਂਦੇ ਪੰਜ ਸ਼ਬਦ ਲਿਖੋ।

     VII.    ਵਿਸ਼ੇਸ਼ਣ ਦੀਆ ਕਿੰਨੀਆਂ ਕਿਸਮਾਂ ਹਨ, ਨਾਮ ਲਿਖੋ।

     VIII.    ਮਿੰਨੀ ਕਹਾਣੀ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

     IX.    ਇੱਕੀ ਤੋਂ ਤੀਹ ਤੱਕ ਗਿਣਤੀ ਲਿਖੋ।

     X.    **ਪੰਜ** ਮਨੁੱਖੀ ਔਗੁਣਾਂ ਦੇ ਨਾਮ ਦੱਸੋ।

[This question paper contains 4 printed pages.]

**Sr. No. of Question Paper : 2088**          **F**

Unique Paper Code          : 2135001001

Name of the Paper          : Basic Principles of Ayurveda

Name of the Course         : **B. A. Programme : GE**

Semester                   : II

Duration : 3 Hours                 Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. **All** questions are compulsory.

3. Unless otherwise required in a question, answers should be written either in Sanskrit or in Hindi or in English, but the same medium should be used throughout the paper.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।

P.T.O.

2. सभी प्रश्न करने अनिवार्य हैं।

3. अन्यथा आवश्यक न होने पर, प्रश्नपत्र के उत्तर संस्कृत या हिन्दी या अंग्रेजी किसी एक भाषा में दीजिए परन्तु सभी प्रश्नों का माध्यम एक ही होना चाहिये।

1. आयुर्वेद के प्रमुख आचार्यों का उल्लेख करते हुए उनके योगदान पर प्रकाश डालिए । (15)

Discuss about main scholars and their contribution in the field of Ayurveda

अथवा

OR

आयुर्वेद की आत्रेय परम्परा अथवा धन्वन्तरी परम्परा के बारे में बताइए।

Discuss about the Atreya and Dhanvantari school of Ayurveda.

2. आयुर्वेद के शालाक्य एवं कौमारभृत्य तंत्र के विषय में विस्तार से बताइए। (15)

Describe in detail about Shalakya and kaumarbhrityatantra of Ayurveda.

**3**

अथवा

**OR**

आयुर्वेद के अनुसार पंचकर्म सिद्धांतों की चर्चा कीजिए ।

Discuss the Panchkarmas of Ayurveda.

3. आयुर्वेद के अनुसार त्रयोदश अग्नि के बारे में बताइए ।          (15)

Describe the Trayodash Agnis according to Ayurveda.

अथवा

**OR**

सप्त धातु के विषय में विस्तार से बताइए ।

What are the Saptadhatus? Discuss.

4. सुश्रुत संहिता के अनुसार आवला, अश्वगंधा और अर्जुन के औषधीय गुणों की चर्चा कीजिए।

What are the medicinal benefits of Amla, Ashvagandha and Arjuna plants according to Sushrut Samhita ?

P.T.O.

अथवा

OR

सुश्रुत संहिता के अनुसार हल्दी, नीम और जामुन के औषधीय गुणों की चर्चा कीजिए ।                                                    (15)

What are the medicinal benefits of Haldi, Neem and Jamun plants according to Sushrut Samhita ?

5.  निम्नलिखित में से किन्हीं तीन पर लघु टिप्पणी लिखिए।(5×3=15)

Write short on any three of following :

(क)  वाजीकरण

     Vaajikarana

(ख)  अगदतंत्र

     Agadtantra

(ग)  पुदीने के औषधीय गुण

     medicinal benefits of Pudina

(घ)  ब्राह्मी के औषधीय गुण

     medicinal benefits of Brahmi

(ङ)  भूतविद्या

     Bhutvidya

(500)

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 2091          F

Unique Paper Code          : 2135001004

Name of the Paper          : Sanskrit Narratology

Name of the Course         : **B.A.(Prog.) GE**

Semester                   : II

Duration : 3 Hours                    Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  **All** Questions are compulsory.

3.  Unless otherwise required in a question, answers should be written in Sanskrit, **Hindi** or in **English** but the same medium should be used throughout the paper.

## छात्रों के लिए निर्देश

1.  इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।

2.  सभी प्रश्न अनिवार्य हैं।

P.T.O.

3. अन्यथा आवश्यक न होने पर इस प्रश्नपत्र का उत्तर संस्कृत, हिन्दी अथवा **अंग्रेजी** किसी भी एक भाषा में दीजिये, परन्तु सभी प्रश्नों के उत्तरों का माध्यम एक ही होना चाहिये ।

1. निम्नलिखित में से **किन्हीं तीन** प्रश्नों का उत्तर दीजिए ।

(3×20=60)

Answer **any three** questions of the following-

(क) संस्कृत आख्यान परम्परा के विकास में इतिहास–पुराण के महत्त्व का वर्णन करें।

Describe the importance of Itihāsa-Purāṇa in the development of Sanskrit narrative tradition.

(ख) संस्कृत उपदेशात्मक कथाओं के महत्त्व पर एक निबन्ध लिखिये

Write an essay on Sanskrit fables.

(ग) भारतीय चिन्तन पर संस्कृत आख्यानपरम्परा के प्रभाव को विश्लेषित करें।

Explain the impact of Sanskrit narratology on Indian thought.

(घ) कथावाचन-परम्परा की समाज जागरण में भूमिका रेखांकित कीजिये।

Underline the role of the tradition of story-telling in social-awakening.

(ङ) कला के विभिन्न रूपों पर संस्कृत आख्यानों के प्रभाव की विवेचना कीजिये ।

Explain the impact of Sanskrit narratives on different art-forms.

2. निम्नलिखित में से किन्हीं तीन पर टिप्पणी लिखें।          (3×5=15)

Write notes **on any three** of the following

(क) गाथा - नाराशंसी

   Gāthā Nārāśaṁsī

(ख) कथासरित्सागर

   Kathāsaritsāgara

(ग) आशु

Improvisation

(घ) गुहाचित्र

Cave-painting.

(ङ) पञ्चतन्त्र

Pañcatantra

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[This question paper contains 2 printed pages.]

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. The question paper has **two** parts. Both the parts have to be attempted.

### Part A          (3×10=30 marks)

Attempt **any 3** out of the following **5** questions

Write short notes on :

1. The significance of the title of Chekhov's "The Betrothed".

2. The title of Mansfield's short story "The Voyage".

3. Orientalism.

4. Lulu's marriage in Sartre's "Intimacy".

5. Barthes's discussion of French toys.

P.T.O.

**4262**                    **2**

Attempt **any 3** out of the following **5** questions

6. What does Gramsci mean by hegemony? What is the relation between hegemony and the role of intellectuals in society?

7. Discuss the themes of homecoming and nostalgia in Lu Xun's short story "My Old Home". What kind of relationship with the past does the story seem to advocate?

8. Discuss Simone de Beauvoir's comparison between the state of women and that of Jewish people, black people, and the working classes. Do you think these comparisons are effective in strengthening her arguments?

9. Discuss the character of Hieronymus in Thomas Mann's "Gladius Dei". What are his views on the role of art in society and how do they differ from those of M. Bluthenzweig?

10. In his essay, Foucault discusses the concepts of "work" and "writing" as "notions that are intended to replace the privileged position of the author [but they] actually seem to preserve that privilege." Explain Foucault's argument and critically analyze it.

Unique Paper Code        : 3223590७○○○
Name of the Paper        : GE-7 Human Physiology
Name of the Course       : B.Sc. Theory Examination, May 2023
Semester                 : Semester – II, CBCS
Duration                 : 3 hours
Maximum Marks            : 75 Marks

**Instructions for candidates:**

1. Write your **Roll No.** on the top immediately on receipt of this question paper
2. Attempt **FIVE** questions in all
3. Question **No. 1** is **compulsory**
4. **Draw** diagrams wherever required

**Q1.** (a) **Define** the following terms (Any **five**):     5
    1. Tropic hormone
    2. Latent period
    3. Bohr's effect
    4. Glial cells
    5. Semilunar valves
    6. Deglutition

  (b) **Distinguish** between the following (Any **five**):     10
    1. Spermatogenesis and spermiogenesis
    2. I-band and A-band
    3. Tubular reabsorption and tubular secretion
    4. Systemic and pulmonary circulation
    5. Chief cells and Parietal Cells
    6. Neurotransmitter and Hormone

  (c) **Expand** the following abbreviations:     4
    1. ANP
    2. CCK
    3. MMC
    4. PRL

  (d) State the **location** and **function** of the following (Any **four**):     8
    1. Acrosome
    2. Tropomyosin
    3. Type I Pneumocytes
    4. Submucosal plexus
    5. Thyrotrophs

**Q2.** (a) Discuss the various hormones of anterior pituitary and their effect on the target tissue.     8,4
  (b) Discuss the role of parathyroid gland in calcium homeostasis.

**Q3.** (a) Explain the excitation-contraction coupling with the help of suitable diagram.     8,4
  (b) What is an action potential.

**Q4.** (a) Describe the process of digestion and absorption of carbohydrate in the gastrointestinal tract. **9,3**
(b) Discuss the role of liver in food digestion.

**Q5.** (a) Discuss the various mechanisms of oxygen transport in blood. **8,4**
(b) Draw a well labelled diagram of Nephron.

**Q6.** (a) Discuss the various phases of cardiac cycle. **8,4**
(b) Explain the hormonal regulation of oogenesis.

**Q7.** Write short notes on *Any Three* of the following: **4x3=12**
a) Renin-Angiotensin-Aldosterone system
b) Sarcomere
c) Regulation of Glomerular filtration rate
d) Conduction system of heart

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[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 4278        **E**

Unique Paper Code        : 12315406

Name of the Paper        : INEQUALITY AND DIFFERENCE

Name of the Course       : GE

Semester                 : IV

Duration : 3 Hours        Maximum Marks : 75

समय : 3 घंटे              पूर्णांक : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  Students must attempt **four** questions.

3.  **All** questions carry equal marks.

4.  Answers may be written either in English or Hindi but the same medium should be used throughout the paper.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।

2. कुल 4 प्रश्नों के उत्तर देना अनिवार्य हैं।

3. **सभी प्रश्नों** के अंक समान हैं।

4. इस प्रश्नपत्र का उत्तर अंग्रेजी या हिन्दी किसी एक भाषा में दीजिए; लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए।

1. Differences in our society have been result of long and complex historical processes. Explain with suitable examples.

   हमारे समाज में व्याप्त 'अंतर' एक लंबी और जटिल ऐतिहासिक प्रक्रिया का नतीजा हैं। उपयुक्त उदाहरणों सहित समझाइए।

2. Discuss the continuity and change in the concept of caste from ancient period to the present.

   प्राचीन काल से वर्तमान तक जाति की अवधारणा में हुई निरंतरता और परिवर्तन की चर्चा करें।

3. Has class and status changed the way how we perceive caste in India? Elucidate with examples.

   क्या वर्ग और हैसियत ने जाति के विषय में हमारी समझ को परिवर्तित किया है? उदाहरण के साथ स्पष्ट कीजिए।

4. Even women of upper caste have faced unequal situation in their private spheres? Discuss with suitable examples.

   उच्च जाति की महिलाओं को भी अपने निजी क्षेत्र में असमान स्थिति का सामना करना पड़ा है? उपयुक्त उदाहरणों के साथ चर्चा कीजिए।

5. Write a note on the Dalit consciousness in India.

   भारत में दलित चेतना पर एक टिप्पणी लिखिए।

6. Discuss the role played by B R Ambedkar for the improvement in the situation of the depressed classes.

   निम्न वर्गों की स्थिति में सुधार के लिए बी आर अम्बेडकर द्वारा निभाई गई भूमिका पर चर्चा करें।

# 4278

## 4

7.  Ganikas were slave to their own situation. Discuss.

गणिकाएँ अपनी ही स्थिति की गुलाम थीं। विवेचन कीजिए।

8.  The constitution of India prohibits any discrimination on the grounds of religion, race, caste, sex, or place of birth. Explain this in relation to social inequalities in India.

भारत का संविधान धर्म, नस्ल, जाति, लिंग या जन्म स्थान के आधार पर किसी भी तरह के भेदभाव पर रोक लगाता है। भारत में सामाजिक असमानताओं के संबंध में इनकी व्याख्या कीजिए।

(1000)

[This question paper contains 4 printed pages.]

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  Attempt **three** questions from **PART A** and **three** questions from **PART B**.

3.  Questions in **PART A** carry **10** marks each, and those in **PART B** carry **15** marks each.

## Part A

### (3×10=30 marks)

1. Discuss the different types of shots with the help of a diagram.

2. Explain the different elements of a television news bulletin.

3. Discuss the properties of sound. Explain the different types of microphones.

4. Write a short note of any **two** of the following :

   (a) Docudrama

   (b) Visual Culture

   (c) Natural Sound, Ambience Sound

   (d) Electronic Image Stabilization

   (e) Electronic Field Production

   (f) Location recce

5. Explain the multi-Source Linear Editing setup with the help of a diagram.

## Part B

### (3×15=45 marks each)

6. Write a news story on any **one** of the following:

   (a) Collegium System

   (b) India after 75

   (c) Akanda Bharat

   (d) Viswa Guru Bharat

7. Discuss the different types of camera angles and movement. Explain the different camera mounting equipment.

8. Discuss the different lighting accessories. Explain the 3-point lighting setup with the help of a diagram.

P.T.O

9. Explain the importance of research in documentary film making. Discuss the different stages of video Production.

10. Discuss the role and scope of Non-Linear editing in a television news organisation.

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Your Roll No.....................

. No. of Question Paper : **6876**

nique Paper Code : 61018411

ame of the Paper : Cyber Crime and Laws

ame of the Course : **B.Voc. (Web Designing / Software Development) (GEC-4.2)**

emester : IV

uration : 3 Hours

aximum Marks : 75

## structions for Candidates

Write your Roll No. on the top immediately on receipt of this question paper.

**Question No. 1** is compulsory from **Section A.**

Attempt **any Five** questions from **Section B.**

## Section A

1. (i) Explain the categories of cyber-crimes. 3

(ii) Differentiate between cyber-crime and conventional crime. 3

(iii) What is a Domain name? Give examples. How do you define Domain name disputes? 3

(iv) Critically evaluate Ethics and Etiquettes in Cyber World. 3

(v) Critically examine and explain the liability of social networking sites (Facebook, Twitter) according to IT Act. 3

(vi) Define e-contract. Discuss various forms of electronic contract? 3

(vii) Write a note on "offences involving publishing obscene information". 3

(viii) Write a short note on public and private key encryptions. Define their advantages and disadvantages?    4

## Section B

2    How do we authenticate an electronic record? Explain the process of its creation and verification. Explain the powers and procedures of Cyber Appellate Tribunal. Explain the provisions regarding the appeal made to the Cyber Appellate Tribunal.    10

3.    Explain the penalties and compensation available under IT Act to provide legal protection to the owner of computer resources against cyber-crime.    10

4.    Write short notes on the following:    10

      a) WIPO

      b) Cryptography

      c) Certifying Authority

      d) Cyber Forensic

5.    "E-governance is smart governance." Discuss the provisions of Information Technology Act, 2000 to facilitate and strengthen e-governance.    10

6.    "In the age of Information Communication Technology, right to privacy is being infringed with various means" Explain. What are the provisions which are in consonance with right to privacy? Discuss the provisions exceptions to right to privacy enumerated in Information Technology Act, 2000?    10

7.    "Cyber Crimes are considered as borderless crimes." Explain problems faced so far as jurisdiction is concerned.    10

8.    Explain briefly punishment for publishing and transmitted absence material in electronic transactions. Critically review the case Avnish Bajaj vs. State. Explain the Role of Government in regulating the Internet Censorship.    10

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Your Roll No...............

Sr. No. of Question Paper : 3273          E

Unique Paper Code        : 62275604

Name of the Paper       : Principles of Macroeconomics

Name of the Course     : BA (Prog.) Eco, GE

Semester                 : VI

Duration : 3 Hours           Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. All questions are divided into sections **A** and **B**. Attempt any **5** out of **7** questions from each section.

3. **Section A** has short answer questions and each carries 5 marks whereas **Section B** contains long answer questions and **10** marks.

4. Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

## छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।

2. सभी प्रश्नों को खंड – अ तथा खंड – ब में विभाजित किया गया है। प्रत्येक खंड में से 7 प्रश्नों में से किन्हीं 5 प्रश्नों के उत्तर दीजिए।

3. खंड अ में लघु उत्तरीय प्रश्न हैं एवं प्रत्येक 5 अंक का हैं जबकि खंड ब में में दीर्घ उत्तरीय प्रश्न हैं और प्रत्येक 10 अंक का हैं।

4. इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए।

## SECTION – A

1. Discuss the following terms :–

   (i) Aggregation

   (ii) Macroeconomic policies

निम्नलिखित शर्तों पर चर्चा करें :–

   (i) एकत्रीकरण

   (ii) व्यापक आर्थिक नीतियां

2. Explain the concept of the uses-of-saving identity.

यूज़ – ऑफ – सेविंग आइडेंटिटी की अवधारणा को समझाइए।

3. Discuss the concept of multiplier. (Diagram is required).

गुणक की अवधारणा पर चर्चा करें। (आरेख आवश्यक है)

4. What are the two components of the user cost of capital?

पूंजी की उपयोगकर्ता लागत के दो घटक कौन से हैं?

5. What is the full employment budget surplus?

पूर्ण रोजगार बजट अधिशेष क्या है?

6. What are the motives for holding money?

मुद्रा रखने के उद्देश्य क्या हैं?

7. Explain the relationship between bond price and rate of interest.

बॉन्ड की कीमत और ब्याज दर के बीच संबंध को समझाइए।

## Section – B

1. What is macroeconomics? Mention the issues of macroeconomics that macroeconomists address.

समष्टि अर्थशास्त्र क्या है? समष्टि अर्थशास्त्र के उन मुद्दों का उल्लेख करें जिन्हें समष्टि अर्थशास्त्री संबोधित करते हैं।

2. (a) Suppose nominal GDP is $66,000 and real GDP is $62,000, find the value of the GDP-deflator.

   (b) List the four components of total spelling.

   (अ) मान लें कि नाममात्र जीडीपी $66,000 है और वास्तविक जीडीपी $62,000 है, जीडीपी-डिफ्लेटर का मूल्य ज्ञात करें।

   (ब) कुल स्पेलिंग के चार घटकों की सूची बनाएं।

3.  Give two equivalent ways of describing equilibrium in the goods market. Use diagrams to show how goods market equilibrium is achieved.

वस्तु बाजार में संतुलन का वर्णन करने के दो समान तरीके दीजिए। वस्तुओं के बाजार संतुलन को कैसे प्राप्त किया जाता है यह दिखाने के लिए आरेखों का उपयोग करें।

4.  What is the budget surplus? Explain the effect of government purchases on the budget surplus.

बजट अधिशेष क्या है? बजट अधिशेष पर सरकारी खरीद के प्रभाव की व्याख्या करें।

5.  Following information about an economy are given as :–

    $C = 50 + 0.8YD$

    $I = Rs. 70$

    $G = Rs. 200$

    $TR = Rs. 100$

    $t = 0.20$

(a) Calculate the equilibrium level of income in this model

(b) Calculate also the budget surplus

(c) Suppose that t increases to 0.25. What is the new equilibrium income?

एक अर्थव्यवस्था के बारे में निम्नलिखित जानकारी इस प्रकार दी जाती है :–

$C = 50 + 0.8YD$

$I = 70$ रुपये

$G = 200$ रुपये

$TR = 100$ रुपये

$t = 0.20$

(अ) इस मॉडल में आय के संतुलन स्तर की गणना करें।

(ब) बजट अधिशेष की भी गणना करें।

(स)	मान लीजिए कि t बढ़कर 0.25 हो जाता है। नई संतुलन आय क्या है?

6.	Define net export function. An increase in the marginal propensity to import reduces the equilibrium income level in an open economy, while an increase in autonomous export increases the equilibrium level of income. Explain with the help of a graph.

शुद्ध निर्यात फलन को परिभाषित कीजिए । आयात की सीमांत प्रवृत्ति में वृद्धि एक खुली अर्थव्यवस्था में संतुलन आय स्तर को कम करती है, जबकि स्वायत्त निर्यात में वृद्धि आय के संतुलन स्तर को बढ़ाती है। एक ग्राफ की सहायता से समझाइए ।

7.	(a) Explain financial market equilibrium with the help of money supply and money demand analysis.

	(b) What is the money multiplier? If checkable deposits (c) is zero, and the reserve ratio ($\theta$) is 0.1, find the value of the money multiplier.

(अ) मुद्रा पूर्ति तथा मुद्रा माँग विश्लेषण की सहायता से वित्तीय बाजार संतुलन की व्याख्या कीजिए ।

(ब) धन गुणक क्या है? यदि चेक करने योग्य जमा (सी) शून्य है और आरक्षित अनुपात ($\theta$) 0.1 है, तो धन गुणक का मूल्य पाएं ।

Sr. No. of Question Paper :  3293       **E**

Unique Paper Code       :   62295602

Name of the Paper       :   Climate Change Vulnerability and Mitigation

Name of the Course       :   **B.A. (PROG.), Generic Elective (GE) CBCS – LOCF**

Semester       :   VI

Duration : 3 Hours       Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt **all** questions.

3. **All** questions carry equal marks.

4. Use of stencil is allowed for drawing outline of maps.

5. Answers may be written either in English or Hindi; but the same medium should be used throughout the paper.

छात्रों के लिए निर्देश

1. इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2. सभी प्रश्नों के उत्तर दीजिये ।

3. सभी प्रश्नों के अंक समान हैं ।

4. मानचित्रों की बाहरी रेखाओं को खींचने के लिए **मैप स्टैंसिल के प्रयोग की** अनुमति है ।

5. इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. Define the science of climate change. Discuss the impact of climate change with suitable examples.

   जलवायु परिवर्तन के विज्ञान को परिभाषित कीजिए। उचित उदाहरणों की सहायता से जलवायु परिवर्तन के प्रभावों का व्याख्या करें ।

   **OR अथवा**

   Evaluate the role of green house gas in global warming.

   ग्लोबल वार्मिंग में हरित गृह गैस की भूमिका का मूल्यांकन कीजिये ।

2. Define vulnerability. Discuss physical and economic vulnerability to climate change.

   सुभेद्यता को परिभाषित करें। जलवायु परिवर्तन की भौतिक एवं आर्थिक सुभेद्यता का वर्णन करें।

## OR अथवा

   Discuss social vulnerability to climate change with suitable examples in detail.

   जलवायु परिवर्तन के सामाजिक सुभेद्यता का उदाहरण सहित विस्तृत वर्णन कीजिये ।

3. Describe the impact of climate change on agriculture and water.

   कृषि और जल पर जलवायु परिवर्तन के प्रभाव का वर्णन कीजिए ।

## OR अथवा

   Illustrate the impact of climate change on human health in detail.

   जलवायु परिवर्तन के मानव स्वास्थय पर पड़ने वाले प्रभावों का विस्तृत उल्लेख कीजिये ।

4. Discuss the global initiatives of adaptation to climate change with suitable examples from South Asia.

   दक्षिण एशिया के उपयुक्त उदाहरणों की सहायता से जलवायु परिवर्तन अनुकूलन के वैश्विक पहल पर चर्चा करें।

   ### OR अथवा

   Describe the role of local institutions in addressing climate change.

   जलवायु परिवर्तन के समाधान में स्थानीय संस्थाओं की भूमिका का वर्णन करें।

5. Write short notes on **ANY TWO** of the following :

   (a) Intergovernmental Panel on climate change (IPCC)

   (b) Impact of climate change on flora and fauna

   (c) National Action Plan on climate change

   निम्नलिखित में से **किन्हीं दो** पर संक्षिप्त टिप्पणी लिखिए :

   (क) जलवायु परिवर्तन पर अंतर-सरकारी पैनल (आई.पी.सी.सी)

   (ख) जलवायु परिवर्तन का वनस्पति और जीव-जन्तुओ पर प्रभाव

   (ग) जलवायु परिवर्तन पर राष्ट्रीय कार्य योजना

[This question paper contains 4 printed pages.]

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|---|---|---|
| Sr. No. of Question Paper | : | 3298      E |
| Unique Paper Code | : | 62315620 |
| Name of the Paper | : | Delhi through the Ages |
| Name of the Course | : | B.A. Programme - GE |
| Semester | : | VI |

Duration : 3 Hours          Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  Attempt **any five** questions in all.

3.  **All** questions carry equal marks.

4.  Answers may be written either in English or Hindi; but the same medium should be used throughout the paper

## छात्रों के लिए निर्देश

1.  इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

2.  कुल पाँच प्रश्नों के उत्तर दीजिए ।

3.  सभी प्रश्नों के अंक समान हैं।

4.  इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

P.T.O

          **2**

1. In what way have the prehistoric and protohistoric archaeological sites in Delhi assisted in comprehending the city's history?

   दिल्ली में प्रागैतिहासिक और आद्य ऐतिहासिक पुरातात्विक स्थलों ने शहर के इतिहास को समझने में किस प्रकार सहायता की है?

2. How have ancient monuments been subject to reinterpretation across different periods of time? Describe using the Mehrauli Iron pillar as examples.

   मेहरौली के लौह स्तंभ का उदारण देते हुए वर्णन कीजिए कि कैसे विभिन्न समयावधियों में प्राचीन स्मारक पुनर्व्याख्या के विषय रहे हैं।

3. How did the transformation of ruling dynasties and groups in medieval Delhi during the 13th and 14th centuries influence the changing patterns and layouts of the court, capital, and urban centers?

   13वीं और 14वीं शताब्दी के दौरान मध्ययुगीन दिल्ली में शासक राजवंशों और समूहों के परिवर्तन ने राज-दरबार, राजधानी और शहरी केंद्रों के बदलते पतिरूप और विन्यास (लेआउट) को कैसे प्रभावित किया?

4. Ghalib metaphorically described Delhi as a Mughal candle, which flickers back to its former glory before being permanently extinguished. Do you agree?

   गालिब ने दिल्ली को एक मुगल मोमबत्ती के रूप में वर्णित किया, जो स्थायी रूप से बुझने से पहले अपने पूर्व गौरव को झिलमिलाती है। क्या आप सहमत हैं?

5. Provide a depiction of the cultural milieu of Delhi during the 19th century.

   19वीं शताब्दी के दौरान दिल्ली के सांस्कृतिक परिवेश का चित्रण कीजिए।

6. How have the events of the Indian Rebellion of 1857 been remembered and memorialized over time?

1857 के भारतीय विद्रोह की घटनाओं को समय के साथ कैसे याद किया गया और यादगार बनाया गया?

7. Provide a detailed analysis of the ideological clashes that arose during the establishment of imperial Delhi?

साम्राज्यवादी दिल्ली की स्थापना के दौरान हुए वैचारिक संघर्षों का विस्तृत विश्लेषण प्रस्तुत कीजिए.

8. Depict the ordeals faced by the populace of Delhi during the partition.

विभाजन के दौरान दिल्ली की जनता के सामने आने वाली कठिनाइयों को चित्रित करें।

9. Discuss the idea of the waterfront garden as it evolves under different Mughal rulers.

विभिन्न मुगल शासकों के अंतर्गत तट-बगीचे की अवधारणा के विकास की चर्चा कीजिये.

10. Write short notes on any two of the following:

(a) Mandoli

(b) Pillars of Ashoka

(c) Kilokri

(d) Bahadur Shah Zafar

निम्नलिखित में से किन्हीं दो पर संक्षिप्त टिप्पणियाँ लिखिए :

(क) मंडोली

(ख) अशोक के स्तंभ

(ग) किलोकरी

(घ) बहादुर शाह जफर

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[This question paper contains 6 printed pages.]

Sr. No. of Question Paper : 4972     E

Unique Paper Code     : 62355604

Name of the Paper     : GE-2 GENERAL MATHEMATICS - II

Name of the Course     : Mathematics : Generic Elective

Semester     : VI

Duration : 3 Hours        Maximum Marks : 75

## Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt all questions as per directed question wise.

## SECTION – 1

1. Write a short note on the life and contributions of any three of the following mathematicians :

(a) Bhargava

P.T.O.

(b) Von Neumann

(c) Noether

(d) Abel

(e) Riemann

(f) Lagrange.                  (15)

## SECTION – II

2. Attempt any **six** questions. Each question carries five marks :

(a) What is Konigsberg Bridge problem? How graph of the Konigsberg bridge problem can be modify to solve this problem?

(b) Write short note of any two of the following :

   (i) Mobius Strip

   (ii) Four Color Map Theorem

   (iii) Golden Ratio

(c) Make graph of $y = \sqrt{x}$; where x and y are real numbers. Explain why it is not a function.

(d) What is projection? Draw projection in XY plane of a point and a line in space.

(e) What is Fibonacci sequence? Show that ratio of the one Fibonacci number to the one preceding it draws progressively nearer to golden ratio.

(f) Given $Sin\,\theta = -\dfrac{12}{37}$, find $Cos\,\theta$, $Tan\,\theta$ and $Sec\,\theta$.

(g) What is regular polyhedron? Draw Face Diagonal and Space Diagonal in a cuboid.

(h) Define reflection symmetry. What are the reflection and rotational symmetries of a square and isosceles triangle?

## SECTION III

3.  Do any five questions. Each question carries six marks :

(a) Solve the following system of linear equations using Gaussian elimination method

$$2x - 2y + 3z = 2$$

$$x + 2y - z = 3$$

$$3x - y + 2z = 1$$

(b) Solve the following system of linear equations using Gauss Jordan method

$$x + 3y + 2z = 2$$

$$2x + 7y + 7z = -1$$

$$2x + 5y + 2z = 7$$

(c) Find the rank of the following matrix by reducing it to row echelon form

$$\begin{pmatrix} 1 & -1 & 3 \\ 2 & 0 & 4 \\ -1 & -3 & 1 \end{pmatrix}$$

(d) Find the inverse of the coefficient matrix and use it to solve the following system of linear equations

$2x + 4y - 2z = 2$

$4x + 9y - 3z = 8$

$-2x - 3y + 7z = 10$

(e) Compute $A^{-1}$ for the given matrix

$$A = \begin{pmatrix} 1 & 2 & 3 \\ 1 & 3 & 2 \\ 2 & 4 & 7 \end{pmatrix}$$

(f) Find the trivial or non-trivial solution of the following system of linear equations

$5x - 2z = 0$

$-15x - 16y - 9z = 0$

$10x + 12y + 7z = 0$

(g) Express the vector x = [5, 17, -20] as a linear combination of the vectors

$a_1$ = [3, 1, -2], $a_2$ = [4, 0, 1], $a_3$ = [-2, 4, -3], if possible.

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[This question paper contains 4 printed pages.]

Your Roll No...............

**Sr. No. of Question Paper : 3187**                    E

Unique Paper Code        : 62277603

Name of the Paper        : Economic Development and Policy in India- II

Name of the Course       : **CBCS B.A. (Prog.), DSE**

Semester/Annual          : VI

Duration : 3 Hours                    Maximum Marks : 75

## Instructions for Candidates

1.  Write your Roll No. on the top immediately on receipt of this question paper.

2.  This paper consists of **8 questions.**

3.  Answer **any 5** questions

4.  **All questions** carry equal marks

5.  Answers may be written either in English or in Hindi, but the same medium should be used throughout the paper

## छात्रों के लिए निर्देश

1.  इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।

P.T.O.

2. इस पत्र में 8 प्रश्न हैं।

3. किसी भी 5 सवालों के जवाब दें।

4. सभी प्रश्नों के अंक समान हैं।

5. इस प्रश्न – पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए, लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए ।

1. The monetary policy framework in India has evolved over the past few decades in response to financial developments and changing macroeconomic conditions. Discuss in detail.

   भारत में मौद्रिक नीति ढांचा पिछले कुछ दशकों में वित्तीय विकास और बदलती व्यापक आर्थिक स्थितियों के अनुसार विकसित हुआ है। विस्तार से चर्चा करें।

2. Provide a detailed overview and evaluation of the land reform policy adopted in India at the time of independence.

   स्वतंत्रता के समय भारत में अपनाई गई भूमि सुधार नीति का विस्तृत अवलोकन और मूल्यांकन प्रदान करें।

3. Examine the evolution of Indian agriculture and allied sectors in the six decades after independence. What have been the main forces that have contributed to this evolution and transformation?

स्वतंत्रता के बाद के छह दशकों में भारतीय कृषि और संबद्ध क्षेत्रों में विकास की जांच करें। इस विकास और परिवर्तन में योगदान देने वाली मुख्य ताकतें क्या रही हैं ?

4. "The thrust of the New Economic Policy, 1991 has been towards creating a more competitive environment in the economy as a means to improving the productivity and efficiency of the system". Evaluate and discuss.

''नई आर्थिक नीति, 1991 को जोर, प्रणाली की उत्पादकता और दक्षता में सुधार के लिए, अर्थव्यवस्था में अधिक प्रतिस्पर्धी वातावरण बनाने की ओर रहा है'। मूल्यांकन करें और चर्चा करें।

5. There is a need to reimagine the role of domestic financial institutions to provide long-term credit for capital intensive industries, infrastructure and exports. Discuss.

पूंजी गहन उद्योगों, आधारभूत सुविधाओं के क्षेत्र (इंफास्ट्रक्चर सेक्टर) और निर्यात के लिए दीर्घकालिक ऋण प्रदान करने के लिए घरेलू वित्तीय संस्थानों की भूमिका की समीक्षा करने की आवश्यकता है। चर्चा करें।

6. "The policy paradigm of focusing on domestic demand and increasing the trade restrictions in post covid era, is a recipe for mediocre growth of the Indian economy." Do you agree with this view? Discuss.

''कोविड के बाद के युग में घरेलू मांग पर ध्यान केंद्रित करने और व्यापार प्रतिबंधों को बढ़ाने के नीतिगत प्रतिमान से भारतीय अर्थव्यवस्था की औसत वृद्धि होगी।'' क्या आप इस विचार से सहमत हैं ?

7.  Provide an overview of trends in growth, employment, trade and capital flows in India's service sector in recent years.

हाल के वर्षों में भारत के सेवा क्षेत्र में विकास, रोजगार, व्यापार और पूंजी प्रवाह के रूझानों का अवलोकन प्रदान करें।

8.  Write shorts notes on **any two** of the following:

निम्नलिखित में से **किन्हीं दो** पर संक्षिप्त टिप्पणी लिखिए:

(a) Privatisation policy of government of India

भारत सरकार की निजीकरण नीति

(b) India's international engagements in services in the context of multilateral and preferential trade negotiations

बहुपक्षीय और तरजीही व्यापार वार्ताओं के संदर्भ में सेवाओं में भारत की अंतर्राष्ट्रीय भागीदारी

(c) Agrarian distress in India in recent years

हाल के वर्षों में भारत में कृषि संकट

(d) Paradigm of macroeconomic stability

व्यापक आर्थिक स्थिरता का प्रतिमान                    $(7.5 \times 2)$

(2000)