Roll No. _____ **NLCS/11/Accountancy/27**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Part – A

Multiple Choice Questions : **4**

Q.1 Which of the following is the correct format for a Journal Entry?

(a) Debit, Credit, Narration (b) Credit, Debit, Narration

(c) Narration, Debit, Credit (d) None of the above

Q.2 Which account is debited when goods are purchased on credit?

(a) Purchases A/c (b) Sales A/c

(c) Cash A/c (d) None of the above

Q.3 What is the purpose of a Journal?

(a) To record transactions in a chronological order

(b) To prepare financial statements

(c) To calculate profit and loss

(d) None of the above

Q.4 Which of the following is an example of a non-cash transaction?

(a) Purchase of goods on credit (b) Sale of goods on credit

(c) Depreciation on machinery (d) Payment of salary

Part – B

Short Answer Questions (Attempt any 3).

Q.5 What is a Journal? Explain its importance? 2

Q.6 Explain the concept of Narration in a Journal Entry. 2

Q.7 Differentiate between Cash and Credit transactions with examples. 2

Q.8 What is compound journal entry? 2

Part – C

Q.9 Pass Journal Entries for the following transactions: 3

(a) Purchased goods worth ₹10,000 from M/s ABC Suppliers on credit.

(b) Sold goods worth ₹ 8,000 to M/s XYZ Traders on credit.

(c) Paid ₹ 2,000 as salary to an employee.

OR

Explain the procedure for recording transactions in a Journal.

Q.10 M/s XYZ Traders sold goods worth ₹ 30,000 to M/s PQR Traders on credit, received ₹ 10,000 immediately by cheque, and allowed a discount of ₹ 2,000. Pass a Compound Journal Entry. 3

OR

Pass Journal Entries for the following transactions :

(i) Purchased goods worth ₹ 50,000 from M/s ABC Suppliers, trade discount 10%, cash discount 2% if paid within 15 days.

(ii) Sold goods worth ₹ 30,000 to M/s PQR Traders, trade discount 5%, cash discount 3% if paid within 10 days.

Prepare Journal Entries for the above transactions.

Part – D

Numerical Question : **4**

Q 11 Prepare Journal Entries for the following transactions and calculate the total debit and credit amounts:

(a) Purchased machinery worth ₹ 50,000 on credit.

(b) Sold goods worth ₹ 20,000 to M/s XYZ Traders on credit.

(c) Paid ₹ 5,000 as rent.

(d) Received ₹ 10,000 as commission.

OR

Question :

Pass Journal Entries for the following transactions and adjustments:

(i) Purchased goods worth ₹ 50,000 on credit from M/s ABC Suppliers.

(ii) Sold goods worth ₹ 30,000 on credit to M/s PQR Traders.

(iii) Paid ₹ 10,000 as rent.

(iv) Received ₹ 5,000 as commission.

(v) Depreciation on machinery ₹ 8,000.

(vi) Outstanding salary ₹ 12,000.

(vii) Prepaid insurance ₹ 3,000.

*****

Roll No. _____ **NLCS/11/BIOLOGY/10**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section - A

Question number 1 to 4 are multiple choice questions and each question is of one mark.

Q.1 Which of the following is not a polysaccharide -
(a) Glycogen (b) starch (c) cellulose (d) maltose

Q.2 Which phase of the cell cycle is the longest ?
(a) G1- phase (b) G2- phase (c) S –phase (d) M- phase

Q.3 At which stage of mitosis does the nuclear envelope reappears -
(a) Prophase (b) metaphase (c) anaphase (d) telophas

Q.4 Law of limiting factors was discovered by -
(a) Blackman's (b) Purkenji (c) Camillo Golgi (d) Schleiden

Section - B

Attempt Any Three questions 5- 8 carry 2 Marks each.

Q.5 What is the difference between nucleotide and nucleoside? (Write 2 -2 difference)

Q.6 State the main events that occurs during interface of the cell cycle. (write any two events)

Q.7 Draw the diagram of Calvin cycle .

Q.8 State any two difference between C3 and C4 plants .

Section - C

Question 9 and 10 carry 3 Marks each.

Q.9 How does cytokinesis in plant cells differ from that in animal cell. Explain with diagram .

OR

Draw a well labelled diagram of all the stages of mitosis.

Q.10 Explain the Z- scheme of light reaction in photosynthesis

OR

Explain the structure of chloroplast with the neat and clean diagram.

Q.11 **Case study :**

Read the following passage and answer the following questions-

All living cells undergo a cycle of growth, DNA replication, and division known as the cell cycle. In eukaryotes, the cell cycle is divided into two main phases: Interphase and the M Phase (Mitotic Phase).

Interphase consists of G1 phase (cell growth), S phase (DNA replication), and G2 phase (preparation for mitosis).

The M phase includes mitosis (nuclear division) and cytokinesis (cytoplasmic division).

Mitosis is further divided into prophase, metaphase, anaphase, and telophase.

Some cells exit the cycle and enter a resting stage called G0 phase, where they neither divide nor prepare for division.

Errors in cell cycle regulation may lead to uncontrolled cell division, a hallmark of cancer. 4×1=4

(i) Which phase of the cell cycle is responsible for the synthesis of DNA?
(a) G1 phase (b) G2 phase (c) S phase (d) M phase

(ii) Cells that do not divide further and exit the cycle into a resting stage are said to be in:
(a) G1 phase (b) G0 phase (c) S phase (d) M phase

(iii) During which phase of mitosis do the sister chromatids separate and move to opposite poles?
(a) Prophase (b) Metaphase (c) Anaphase (d) Telophase

(iv) Which checkpoint ensures that DNA replication is complete before mitosis begins?
(a) G1 checkpoint (b) G2 checkpoint
(c) M checkpoint (d) Cytokinesis checkpoint

OR

(iv) Uncontrolled cell division due to loss of cell cycle regulation may lead to:
(a) Meiosis (b) Cancer (c) Apoptosis (d) Differentiation

*****

Roll No. _____ NLCS/11/Business Studies/27

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. M.M. 20

Part – A

Question no 1-4 carry one marks each :

Q.1 What is the primary function of a bank?
(a) To provide insurance services
(b) To accept deposits and lend money
(c) To offer warehousing facilities
(d) To provide communication services

Q.2 Which of the following is a type of bank account that allows individuals to save a part of their earnings?
(a) Current Account (b) Savings Account
(c) Fixed Deposit Account (d) Multipurpose Account

Q.3 What is the purpose of insurance?
(a) To minimize the impact of uncertainties
(b) To provide financial assistance to businesses
(c) To offer warehousing facilities
(d) To facilitate communication

Q.4 Which principle of insurance ensures that the insured does not make any profit from the insurance claim?
(a) Principle of Indemnity (b) Principle of Subrogation
(c) Principle of Utmost Good Faith
(d) Principle of Contribution

Question No. 5 to 8 attempt any three questions :

Q.5 Why might a company outsource its IT services to a specialized firm? 2

Q.6 What is a potential risk of outsourcing business processes to an external vendor? 2

Q.7 Why is inventory management crucial in warehouse ? 2

Q.8 How can e - business mitigate transaction risks ? 2

Q.9 What are the functions performed by RBI as a central bank? 3

OR

Krishi Sahakari Samiti, a cooperative society in a rural area, is facing challenges in marketing its agricultural produce and ensuring fair prices for its members. The society wants to explore new avenues to improve the income of its members and contribute to rural development.

How can Krishi Sahakari Samiti leverage its cooperative structure and resources to address these challenges and enhance the livelihoods of its members? 3

Q.10 A multinational company, XYZ Inc., is considering outsourcing its IT services to improve efficiency and reduce costs. The company has shortlisted three potential outsourcing vendors: Infosys, TCS, and Wipro. However, XYZ Inc. is concerned about the potential risks associated with outsourcing, such as data security, loss of control, and vendor lock-in.

Question: Evaluate the outsourcing decision for XYZ Inc. and recommend a suitable vendor, considering factors such as cost, expertise, reputation, and risk management. 3

OR

A shipping company, Oceanic Freighters, is seeking marine insurance coverage for its fleet of vessels operating in the Indian Ocean. The company has experienced a recent increase in cargo losses due to piracy and rough weather conditions. Oceanic Freighters wants to ensure comprehensive coverage that addresses these risks.

Question: Design a marine insurance policy for Oceanic Freighters, considering the specific risks and needs of the company. How can the insurer mitigate potential risks and provide effective coverage for the shipping company's operations? 3

Q.11. Explain the functions of commercial banks? 4

OR

What are the concern over outsourcing?

*****

Roll No. _____ **NLCS/11/CHEMISTRY/ 40**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section – A

Multiple Choice Questions : 1×4=4

Q.1 What will be the molarity of a solution, which contains 5.85 g of NaCl (s) per 500 mL?

(a) 4 mol L^{-1}. (b) 20 mol L^{-1} (c) 0.2 mol L^{-1} (d) 2 mol L^{-1}.

Q.2 The empirical formula and molecular mass of a compound are CH_2O and 180 g respectively. What will be the molecular formula of the compound?

(a) $C_9H_{18}O_9$ (b) CH_2O. (c) $C_6H_{12}O_6$ (d) $C_2H_4O_2$

Q.3 The number of radial nodes for 3p orbital is ----------.

(a) 3 (b) 4 (c) 2 (d) 1

Q.4 If travelling at same speeds, which of the following matter waves have the shortest wavelength?

(a) Electron (b) Alpha particle (He^{+2}) (c) Neutron (d) Proton

Section – B

Question 5 to 8 (**Do Any Three**) : 3×2=6

Q.5 Calculate the average atomic mass of hydrogen using the following data :

Isotope %	Natural abundance	Molar mass
1H	99.985	1
2H	0.015	2

Q.6 The density of 3 molal solution of NaOH is 1.110 gm L^{-1}. Calculate the molarity of the solution.

Q.7 What is the maximum number of emission lines when the excited electron of a H atom in n = 6 drops to the ground state?

Q.8 Show that the circumference of the Bohr orbit for the hydrogen atom is an integral multiple of the de Broglie wavelength associated with the electron revolving around the orbit.

Section – C 3x2=6

Q.9 (i) Volume of a solution changes with change in temperature,

then, will the molality of the solution be affected by temperature? Give reason for your answer.

(ii) The reactant which is entirely consumed in reaction is known as a limiting reagent.

In the reaction 2A + 4B → 3C + 4D, when 5 moles of A react with 6 moles of B, then :

(a) Which is the limiting reagent?

(b) Calculate the amount of C formed?

OR

(i) If 4 g of NaOH dissolves in 36 g of H_2O, calculate the mole fraction of each component in the solution. Also, determine the molarity of solution (specific gravity of solution is 1gm L^{-1}).

(ii) How are 0.50 mol Na_2CO_3 and 0.50 M Na_2CO_3 different?

Q.10 A welding fuel gas contains carbon and hydrogen only. Burning a small sample of it in oxygen gives 3.38 g carbon dioxide, 0.690 g of water and no other products. A volume of 10.0 L (measured at STP) of this welding gas is found to weigh 11.6 g. Calculate

(a) empirical formula, (b) molar mass of the gas, and (c) molecular formula.

OR

Define the law of multiple proportions. Explain it with two examples. How does this law point to the existence of atoms?

Section – D 4×1=4

Q.11 Read the following passage and answer the questions that follow:

Bohr's model explained electrons can revolve only in certain permitted orbits who's angular could successfully explain stability of atoms and spectrum of unielectron species. Hydrogen spectrum consists of Lyman, Balmer, Paschen, Brackett and Pfund series. Bohr's theory could not explain spectrum of multi-electron species, Stark effect, Zeeman effect, dual nature of matter, de Broglie equation and Heisenberg uncertainty principle which lead to orbital concept. Electrons were filled in orbitals according to Aufbau's principle, Hund's Rule and Pauli's exclusion principle. Each electron is identified by four quantum numbers n, l, ml and ms out of which n, l, ml was derived from Schrodinger's wave equation. Half-filled and completely filled orbitals are more stable due to exchange energy and symmetrical distribution of electrons.

(a) Arrange 4d, 3d, 4p and 3p in increasing order of energy.

(b) What is the name of the spectrum of radiation emitted by substances that have absorbed radiation?

(c) What rules out the probability of existence of a definite path of electrons?

(d) Write the period number and group number of Ce.

OR

(d) Why are Half filled and completely filled orbitals more stable?

*****

Roll No. _____ NLCS/11/COMPUTER SCIENCE(083)/28

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section – A

Multiple Choice Questions : **1×5=5**

Q.1 Which of the following methods is used to add an element at the end of a list?

(a) add() (b) append() (c) insert() (d) extend()

Q.2 What will be the output of the following code?

```
list1 = [10, 20, 30]
print(list1[1])
```

(a) 10 (b) 20 (c) 30 (d) Error

Q.3 Which of the following statements about tuples is **true**?

(a) Tuples are mutable

(b) Tuples can be changed after creation

(c) Tuples are immutable (d) Tuples can contain only strings

Q.4 What is the output of the following code?

```
t = (1, 2, 3)
print(len(t))
```

(a) 2 (b) 3 (c) 4 (d) Error

Q.5 Which function returns the **number of occurrences** of a given element in a list?

(a) find() (b) index() (c) count() (d) search()

Section – B

Short Answer Questions : **2×3=6**

Q.6 Write any **four differences between lists and tuples** in Python.

OR

Write any **four list functions** and explain their purpose with one-line examples

Q.7 Write a Python program to **find the average** of 5 numbers entered by the user and display the numbers greater than the average.

OR

Write a Python program to **create a list of 5 integers**, then display:

- The **sum** of all elements
- The **largest** and **smallest** number

Q.8 Write a Python program to **concatenate two tuples** and display the result.

OR

Write a Python program to **find the index of an element** in a tuple entered by the user.

Section – C

Long Answer Questions : **3×2= 6**

Q.9 Write a Python program to **input 10 numbers in a list** and display only the **even numbers** from it.

Q.10 Write a Python program to **count how many times a given element appears** in a tuple.

OR

Write a Python program to **convert a list into a tuple** and display both.

Section – D

Q.11 Read the following case study and answer the questions that follow: **3**

A local shop wants to maintain a list of items sold during the day using Python.

The shopkeeper uses two lists — one for item names and one for their prices.

```
items = ["Soap", "Shampoo", "Oil", "Toothpaste", "Comb"]
prices = [40, 120, 90, 60, 25]
```

He wants to perform the following operations using Python lists:

1. Display all items with their prices.
2. Find and display the **costlist item**.
3. Calculate the **total amount of all items sold**.
4. Display all items that cost **more than ₹ 50**.
5. Add a new item **"Facewash"** with price ₹ **85** and show the updated list.

*****

Roll No. _____

NLCS/11/ECONOMICS/39

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr.

M.M. 20

Multiple Choice Question 1

Mark Each

Q.1 When demand curve is parallel to x- axis, elasticity of demand is :
(a) unity (b) Zero (c) greater than unity (d) Infinity

Q.2 In the context of Long-run production function ratio is :
(a) Variable (b) Constant
(c) Variable as well as constant (d) None of these

Q.3 When two variables change in the same direction, then such a Correlation is called :
(a) Negative (b) Positive (c) No correlation (d) All of these

Q.4 When the relation of three or more Variables is studied simultaneously, it is called :
(a) Simple correlation (b) Partial Correlation
(c) Multiple correlation (d) None of these

Very short answer type question (**Attempt any three**) : 3×2=6

Q.5 Describe the various degrees of correlation?

Q.6 What are causes of increasing returns to a factor?

Q.7 What is law of variable proportion?

Q.8 Define elasticity of demand with formula of price elasticity of demand.

Short answer type question :- 2×3=6

Q9. Explain factors determining price elasticity of demand.

OR

What are the various degrees of elasticity of demand (any three).

Q.10 Calculate the total product and marginal product from the following and draw a diagram:-

units of labour	1	2	3	4	5
Average product	4	5	5	4	3

OR

Calculate coefficient of correlation, given the following data :

X	2	3	4	5	6	7	8
Y	4	7	8	9	10	14	18

Q.11 **Case study based question :-** **4**

Read the following hypothetical information carefully and answer the questions given below on the basis of the same :

4×1=4

Unit of labour	Average Product	total product	marginal product
1	4	4	4
2	5	-	6
3	5	15	5
4	-	16	1
5	3	16	-

(i) At second unit of labour employed, total product will be_____
(a) 7 (b) 9 (c) 10
(d) 12

(ii) At fourth unit of labour employed, AP will be ---------- .
(a) 1 (b) 4 (c) 12
(d) 64

(iii) Which of the following is incorrect?
(a) when MP decreases, TP also decreases
(b) generally AP curve is U- shaped curve
(c) TP can be zero or negative (d) All of these

(iv) At fifth unit of labour employed, MP will be _____
(a) 1 (b) –1 (c) 8 (d) 12

OR

Read the following statement carefully and choose the correct alternative among those given below :
statement 1 : One when MP decreases, TP increases at decreasing rate .
statement 2 : When MP equals to 0, there is no addition to TP.
(a) Statement one is true and statement two is false
(b) Statement one is false and statement two is true.
(c) Both statements one and two are true
(d) Both statements one and two are false

*****

Roll No. _____ **NLCS/11/ENGLISH/ 80**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Q.1 Read the passage and answer the questions below:

The tests of life are its plus factors. Overcoming illness and suffering moulds character. Steel is iron plus fire, soil is rock plus heat. Sometimes the plus factor is more readily seen by simple hearted. Myers tells the story of a mother who brought into her home - as a companion to her own son- a little boy with a hunch back. She had warned her son to be careful, not to refer to refer to his disability. The boys were playing and after a few minutes she overheard her son say to his companion, 'Do you know what you have got on your back?' The little boys was embarrassed but before he could reply, his playmate continued, 'It is the box in which your wings are, and some day God is going to cut it open and then, you will fly away and be an angel.

(i) What moulds character according to the passage? **1**

(a) Overcoming happiness

(b) Overcoming illness & suffering

(c) Having wealth (d) having power

(ii) What did the little boy's companion say about the hunchback? **2**

(iii) Fill up: The passage suggests that overcoming challenges can help ---------- character. **1**

Q.2 You are the marketing manager of Starbucks coffee products company. To promote the sales of "Starbucks coffee "You have to design a poster detailing the vast variety of Starbucks coffee available in restaurants all over India.Design a suitable poster in 50 words. **2**

OR

You are Vinayak/ Revathi From the green school, Thoothukudi. You read an article about the proposed garbage segregation programme in the neighbourhood, which is set to begin from next week. You decide to make a poster telling your neighbourhood about the program and the value of garbage segregation. Draft a poster in 50 words to be put in your neighbourhood.

Q.3 The policy of reservation of seats for admission to the professional courses is good for the deprived sections of society. Write a debate in 120 to 150 words either for or against the motion. **3**

OR

Migration from villages to cities has led to the spread of urban slums. People living in these slums lead a miserable life. Economic disparity leads to the problems of law and order. Write a debate in 120 to 150 words on solution to the problem of misery in the urban slums lies in creating jobs in the villages. You are Navtej / Navita.

Q.4 Choose the correct option - **1×2=2**

(a) Delhi ---------- on the bank of river Yamuna.

(i) Stands (ii) Stood (iii) Has been standing (iv) is standing

(b) Rearrange the words to form a statement with a complex structure.

Send me/miss the/in case you/train/a telegram

Q.5 Read the extract and answer it : **2**

'When did my childhood go?

Was it the time I realized that adults were not as they seemed to be.

(i) Who is the poet?

(ii) According to the poet, how do adults behave?

Q.6 Answer these questions in not more than 30-40 words

(Do any one from each set) - **2×2=4**

(A) (i) How did Gangadharpant conclude that in this

world his son did not exist?

(ii) How did the Darchen Medical College appear ?

(B) (i) Who was Joe Morgan? Why was he waiting for the doctor when he returned at midnight?

(ii) What did the architect tell the king when he was summoned by the king?

Q.7 Answer ANY ONE in 100-120 words : 3

(i) Give a brief account of the efforts made by Andrew and to revive the still born baby.

(ii) Describe Nick Middleton's journey from Ravu to the height of 5,210 meters.

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Roll No. _____ **NLCS/11/HISTORY/10**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section – A

Multiple Choice Question's : **1×3 =3**

Q.1 Who is considered as the greatest historian of early China?

(a) Sima qian (b) Liang qichao

(c) Kume kunitake (d) Mateo Ricci

Q.2 At the beginning of the 19th century East Asia was dominated by ---------- .

(a) Japan (b) China (c) Russia (d) England

Q.3 In …….Britain recognises USA as an independent nation

(a) 1780 (b) 1785 (c) 1790 (d) 1781

Section – B

Q.4 Discuss about the exploitation of native in Australia. **3**

Q.5 What were the philosophy of the Guomindang about China? **3**

Q.6 Discuss how daily life was transformed at Japan developed. **3**

OR

What were sun yat sen's three principle?

Section – C

Q.7 The rapid rebuilding of the Japanese economy after the shattering defeat was called a post war miracle look at the statement and discuss in detail how Japan after getting defeated in Second World War bounced back to become an economic power? **8**

OR

Discuss about the history, lifestyle, language and belief of native people of North America.

*****

Roll No. _____ **NLCS/11/HISTORY/10**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section – A

Multiple Choice Question's : **1×3 =3**

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Section – B

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Section – C

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OR

Discuss about the history, lifestyle, language and belief of native people of North America.

*****

Roll No. _____ **NLCS/11/MATHEMATICS CORE/ 32**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

Section – A

(Each question4 carry 1 marks each) :

Q.1 The third term of G.P. is 4. The product of its first 5 terms is

(a) 4^4 (b) 4^6 (c) 4^5 (d) 4^3

Q.2 The 8th term from the end of the GP 3, 6, 12, 24,..12288 is

(a) 288 (b) 192 (c) 96 (d) 48

Q.3 If y = $1+\frac{x}{1!}+\frac{x^2}{2!}+\frac{x^3}{3!}$ + ..., then $\frac{dy}{dx}$ =

(a) y + 1 (b) y^2 (c) y (d) y–1

Q.4 $\lim_{x\to 0}\frac{\sqrt{1+x}-1}{x}$ is equal to:

(a) $\frac{1}{2}$ (b) 1 (c) 2 (d) 0

Section – B

(Each question carry 2 mark) (Do Any Three questions)

Q.5 Show that the products of the corresponding terms of the sequences a, ar, ar^2 , ...ar^{n-1} and A,AR, AR^2 ,... AR^{n-1} form a G.P, and find the common ratio.

Q.6 Prove by using distance formula that the points P (1, 2, 3), Q (– 1, –1, –1) and R (3, 5, 7) are collinear.

Q.7 Differentiate the function with respect to x:$\frac{px^2+qx+r}{ax+b}$.

Q.8 Find the derivative of the function from the first principle:$\sqrt{\sec x}$

Section – C

(Each question carry 3 marks)

Q.9 The Sum of two numbers are 6 times their geometric mean, show that numbers are in the ratio (3 + 2 √2) : (3 – 2 √2).

OR

Find the sum of n term of series :

6+66+666+6666+66666---------- to n terms.

Q.10 Differentiate the function with respect to x: $\frac{\sin(x+a)}{\cos x}$ ..

OR

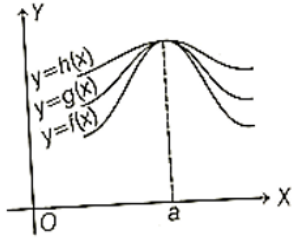
Differentiate the function with respect to x:$\frac{\cos(x+a)}{\sin x}$.

Section – D (Case study 4 marks)

Q.11 Read the following text carefully and answer the questions that follow:

Theorem 2 (Sandwich theorem) Let f, g and h be real functions such that f(x) ≤ g(x) ≤ h(x) for all x in the common domain of definition. For some real number a, if $\lim_{x\to a} f(x) = l = \lim_{x\to a} h(x)$, then $\lim_{x\to a} g(x)$ =t.

This is shown in the figure.



Theorem 3 Three important limits are

1. $\lim_{x\to 0}\frac{\sin x}{x}$ = 1
2. $\lim_{x\to 0}\frac{1-\cos x}{x}$ = 0
3. $\lim_{x\to 0}\frac{\tan x}{x}$ = 1

Questions :

4. Evaluate:$\lim_{x\to\frac{\pi}{4}}\frac{\sin x-\cos x}{x-\frac{\pi}{4}}$ (1)
5. Evaluate:$\lim_{x\to 0}\frac{2\sin x-\sin 2x}{x^3}$ (1)
6. Evaluate:$\lim_{x\to 0}\frac{\tan 2x-\sin 2x}{x^3}$ (2)

OR

Evaluate: $\lim_{x\to 0}\frac{\sin 3x}{5x}$ (2)

*****

Roll No. _____ **NLCS/11/FINE ARTS (049)/20**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 25**

Q.1 Multiple Choice Question's : 1×5=5

(i) Name the branch of history of art in which the images of deities are studied
(a) Cartography (b) Oceanography
(c) Iconography (d) None of these

(ii) The river goddesses like Ganga and Yamuna are usually placed at -
(a) The enterance of garbhagriha
(b) The gateways of gopurams
(c) The outer walls of the sanctum
(d) on the ceiling of the sanctum .

(iii) The history of Indian Bronze sculptures gose back to the Indus Valley Civilization where archeologist found-
(a) Dancing girl (b) Chariot (c) Bull (d) All of these

(iv) The world famous gesture of Lord Shiva in the Nataraja Sculpture , his hands postures are -
(a) Abhayahasta (b) Dolahasta
(c) Damruhasta (d) All of these

(v) In the seventh and eight centuries A.D. , Islam came to India with :
(a) Muslim merchants (b) holy men
(c) muslim conquerors (d) all of these

Q.2 Practical - 20 marks
Draw 2 hands sketch with Charcoal pencil shading.

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Roll No. _____ **NLCS/11/FINE ARTS (049)/20**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 25**

Q.1 Multiple Choice Question's : 1×5=5

(i) Name the branch of history of art in which the images of deities are studied
(a) Cartography (b) Oceanography
(c) Iconography (d) None of these

(ii) The river goddesses like Ganga and Yamuna are usually placed at -
(a) The enterance of garbhagriha
(b) The gateways of gopurams
(c) The outer walls of the sanctum
(d) on the ceiling of the sanctum .

(iii) The history of Indian Bronze sculptures gose back to the Indus Valley Civilization where archeologist found-
(a) Dancing girl (b) Chariot (c) Bull (d) All of these

(iv) The world famous gesture of Lord Shiva in the Nataraja Sculpture , his hands postures are -
(a) Abhayahasta (b) Dolahasta
(c) Damruhasta (d) All of these

(v) In the seventh and eight centuries A.D. , Islam came to India with :
(a) Muslim merchants (b) holy men
(c) muslim conquerors (d) all of these

Q.2 Practical - 20 marks
Draw 2 hands sketch with Charcoal pencil shading.

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Roll No. _____ NLCS/11/Physical Education/40

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M. 20**

General instructions

Read the following instructions carefully and strictly follow them:

(i) The question paper consists of 4 Sections and 10 questions.

(ii) Section A consists of questions 1-4 carrying 1 mark each and is multiple choice questions. All questions are compulsory.

(iii) Section B consists of questions 5-7 carrying 2 marks each and are very short answer types and should not exceed 60-90 words

(iv) Section C consists of questions 8-9 carrying 3 marks each and is short answer types and should not exceed 100-150 words

(v) Section D consists of question 10 carrying 4 marks each and is case studies based

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SECTION – A

Q.1 How many bones are in our lower limbs?

(a) 60 (b) 62 (c) 64 (d) None of these

Q.2 What is the approximate weight of human?

(a) 200kg (b) 300kg (c) 400kg (d) None of these

Q.3 Which is called the study of human?

(a) Anatomy (b) Kinesialogy (c) Biomechanics (d) Physiology

Q.4 The team flexion refers to

(a) Turning (b) Bending (c) Twisting (d) Straightening \

SECTION – B

Q.5 What do you mean by anatomy and physiology?

Q.6 What do you mean by long bones?

Q.7 Discuss any two principles of biomechanics

OR

Give any two importance of Kinesiology

SECTION – C

Q.8 Differentiate between flexion and extension

Q.9 Elucidate the freely movable joints in detail

OR

What do you know about skeletal system?

SECTION – D

Q.10 On the basis of the given picture answer the following question :

(i) The total number of bones vertebral column

(ii) In adults is……

(iii) Scapula and skulls are examples of……..

(iv) Carpus and tarsus are the example of…….

(v) The number of ribs is…….

OR

There are bones in skull.

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Roll No. _____ **NLCS/11/PHYSICS/40**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M.20**

Question 1 to 4 carry one marks only

Q.1 If the earth stops moving around its polar axis, then what will be the effect on the weight of a body placed at the south pole?

(a) Remain same (b) Increase

(c) Decrease but not zero (d) Decrease to zero

Q.2 An artificial satellite moving in a circular orbit around the earth has total (kinetic + potential) energy E_0 .Its potential energy is

(a) - E_0 (b) 1.5E_0 (c) 2 E_0 (d) E_0

Q.3 At what altitude (h) above the earth's surface would the acceleration due to gravity be one-fourth of its value at the earth's surface ?

(a) h = R (b) h = 2R (c) h = 4R (d) h = 16 R

Q.4 The mass of moon is 1% of mass of earth. The tio of gravitational pull of earth on moon and that of on earth will be -

(a) 1 : 1 (b) 1 : 10 (c) 1 : 100 (d) 2 : 1

Question 5 to 8 carry 2 marks only (attempt three only)

Q.5 Assuming the earth to be a sphere of uniform mass density, how much would a body weigh half way down to the centre of the earth if it weighed 250 N on the surface?

Q.6 Define universal gravitational constant G?

Q.7 Derive an expression for the gravitational potential energy of a body of mass m located at a distance r from the centre of earth?

Q.8 Derive an expression for variation of acceleration due to gravity (g) with altitude or height?

Question no. 9 and 10 carry 3 marks only

Q.9 State all three Kepler's laws of planetary motion?

OR

The escape velocity of a projectile on the earth's surface is 11.2 km/s A body is projected out with thrice this speed. What is the speed of the body far away from the earth ? Ignore the presence of the sun and other planets.

Q.10 Define satellite. Find expression for

(i) orbital velocity (ii) height of satellite

(iii)energy of satellite (iv) escape velocity of satellite.

OR

Three equal masses of m kg each are fixed at the vertices of an equilateral triangle . What is the force acting on a mass 2m placed at the centroid of the triangle.

Q.11 Case study carry 4 marks only

Earth satellites are objects which revolve around the earth. Their motion is very similar to the motion of planets around the Sun. In particular, their orbits around the earth are circular or elliptic. Moon is the only natural satellite of the earth with a near circular orbit with a time period of approximately 27.3 days which is also roughly equal to the rotational period of the moon about its own axis. Also, the speed that a satellite needs to be travelling to break free of a planet or moon's gravity well and leave it without further propulsion is known as escape velocity. For example, a spacecraft leaving the surface of earth needs to be going 7 miles per second or nearly 25000 miles per hour to leave without falling back to the surface or falling into orbit.

(i) The ratio of escape velocity at earth (v_e) to the escape velocity at a planet (v_p), whose radius and mean density are twice as that of earth is

(a) $1:2\sqrt{2}$ (b) 1: 4 (c) 1: $\sqrt{2}$ (d) 1: 2

(ii) Gas escapes from the surface of a planet because it acquires an escape velocity. The escape velocity will depend on which of the following factors?

(a) Mass of the planet (b) Mass of the particle escaping

(c) Temperature of the planet (d) None of the above

(iii) The escape velocity of a satellite from the earth is v_e If the radius of earth contracts to (1/4)th of its value, keeping the mass of the earth constant, escape velocity will be

(a) doubled (b) halved (c) tripled (d) unaltered

(iv) A satellite S is moving in an elliptical orbit around the earth. The mass of the satellite is very small as compared to the mass of the earth, then

(a) the angular momentum of S about the centre of the earth changes in direction, but its magnitude remains constant

(b) the total mechanical energy of S varies periodically with time

(c) the linear momentum of S remains constant in magnitude

(d) the acceleration of S is always directed towards the centre of the earth

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Roll No. _____ **NLCS/11/Political Science/15**

Unit Test II Examination 2025 – 2026

Time - 1:00 Hr. **M.M.20**

Section – A

Multiple Choice Question's : **1×4=4**

Q.1 Objective type questions;

(i) The council of states is called---------- and the House of people is called ---------- .

(a) Lok sabha, Rajya sabha (b) Rajya sabha, Lok sabha

(c) Vidhan sabha, Vidhan parishad

(d) Vidhan parishad, Vidhan parishad

(ii) The concept of judicial review is borrowed from?

(a) French constitution (b) The USA constitution

(c) Ireland constitution (d)The UK constitution

(iii) Right to criticise the government is a/an :

(a) Civil right (b) Political right

(c) Economic right (d) Natural right

(iv) Who has defined the basic structure of the constitution?

(a) Executive (b) Legislature

(c)Supreme court (d) High court

Section – B

Q.2 Very short answer (**Do Any Three**) : 2×3=6

(i) What is the utility of advisory powers of supreme court?

(ii) What is freedom of speech and expression ?

(iii) What is defection?

(iv) Why the Lok Sabha contral the executive more effectively than Rajya Sabha?

Section – C

Q.3 Short answer type questions : 3×2=6

(i) Mention the special powers of the Rajya sabha.

(ii) Elucidate the powers of Lok sabha.

Q.4 What are Human Rights?

OR

"Rights are necessary for leading a life of right and dignity". Explain.

Section – D

Q.5 Read the passage and answer the following questions : 4×1=4

The Judges have a fixed tenure . They hold office till reaching the age of retirement. Only in exceptional cases Judges may removed. But otherwise, They have security of tenure . security of tenure ensures that Judges could Function without fear or favour. The constitution precscribes a very difficult Procedure for removal of Judges . The constitution makers believed that a Difficult procedure of removal would provide security of office to the members of judiciary.

(i) The Judiciary is not financially dependent on----------

(a) Executive (b) Legislature

(c) Both (a)and (b) (d) Neither (a) nor (b)

(ii) The other Judges of the Supreme court and the High court are appointed by the ---------- after'consulting'the CJI.

(a) Chief Minister (b) President

(c) Governer (d) Prime Minister

(iii) On what grounds does the Judge of Supreme court and High court be removed?

(a) Misbehaviour (b) Incapacity

(c) Both (a) and (b) (d) Neither (a) nor (b)

(iv) The constitution of India provides for a integrated Judicial system.

(a) Quasi (b) Single

(c) Multi (d) None of these

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