CLASS -12 MATHEMATICS HOLIDAY HOMEWORK 2024-2025

1.

Given $A = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ verify that $BA = 6I$, use the result to solve the system of linear equations
$x - y = 3$, $2x + 3y + 4z = 17$, $y + 2z = 7$.

2. Determine the product $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the system of equations $x - y + z = 4$; $x - 2y - 2z = 9$; $2x + y + 3z = 1$. [AI 2017]

3. If $A^{-1} = \begin{bmatrix} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$, find $(AB)^{-1}$. [NCERT; Foreign 2012]

4. If $A = \begin{bmatrix} 2 & 3 & 10 \\ 4 & -6 & 5 \\ 6 & 9 & -20 \end{bmatrix}$, find A^{-1}. Using A^{-1} solve the system of equations $\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 2$;
$\frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 5$; $\frac{6}{x} + \frac{9}{y} - \frac{20}{z} = -4$ [Delhi 2017]

5. If $A = \begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$, find A^{-1}. Using A^{-1} solve the following system of equations: $2x - 3y + 5z = 16$; $3x + 2y - 4z = -4$; $x + y - 2z = -3$

6. Show that the relation R in the set of real numbers, defined as $R = \{(a, b) : a \leq b^2\}$ is neither reflexive nor symmetric nor transitive. [NCERT]

7. Show that the relation S in the set R of real numbers, defined as $S = \{(a, b) : a, b \in R \text{ and } a \leq b^3\}$ is neither reflexive, nor symmetric, nor transitive.

8. Let Z be the set of all integers and R be the relation on Z defined as $R = \{(a, b) : a, b \in Z \text{ and } (a - b) \text{ is divisible by } 5\}$. Prove that R is an equivalence relation.

9. Let $A = \{1, 2, 3, \ldots\ldots, 9\}$ and R be the relation in $A \times A$ defined by $(a, b)\ R\ (c, d)$ if $a + d = b + c$, for $(a, b), (c, d) \in A \times A$. Prove that R is an equivalence relation, also obtain the equivalent class $[(2, 5)]$.

10. Let $A = R - \{3\}$ and $B = R - \{1\}$. Consider the function $f : A \to B$ defined by $f(x) = \dfrac{x-2}{x-3}$. Show that f is one-one and onto. [Delhi 2012]

11.

12. Show th
$f(x) = \{$
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13. Show that the Signum Function $f : R \to R$, given by $f(x) = \begin{cases} 1, & \text{if } x > 0 \\ 0, & \text{if } x = 0 \\ -1, & \text{if } x < 0 \end{cases}$ is neither one-one nor onto. [NCERT]

14. Find the principal value of $\cos^{-1}\left(\cos\frac{7\pi}{6}\right)$.

[NCERT; HOTS] (2 Marks)

15. Find the value of $\sin\left(2\sin^{-1}\frac{3}{5}\right)$. [Foreign 2013] (2 Marks)

16. Find the value of $\tan^{-1}\left(\tan\frac{9\pi}{8}\right)$.

[NCERT Exemplar; Foreign 2013] (2 Marks)

17. Write the principal value of $\tan^{-1}\left(\tan\frac{3\pi}{4}\right)$.

[NCERT; HOTS] (2 Marks)

18. Find the value of $\sin^{-1}\left[\sin\left(-\frac{17\pi}{8}\right)\right]$.

[CBSE 2020] (2 Marks)

19. Find the principal value of $\tan^{-1}\left(\tan\frac{5\pi}{6}\right)$. [DoE] (2 Marks)

Question numbers 20,21 and 22 are given. All questions are compulsory.

If $A = \begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$, find A^{-1}. Hence using A^{-1} solve the system of equations $2x - 3y + 5z = 11$; $3x + 2y - 4z = -5$; $x + y - 2z = -3$. [CBSE 2020; AI 2017]

If $A = \begin{bmatrix} 1 & 2 & 5 \\ 1 & -1 & -1 \\ 2 & 3 & -1 \end{bmatrix}$ find A^{-1} and hence solve the system of equations $x + 2y + 5z = 10$; $x - y - z = -2$; and $2x + 3y - z = -11$. [Foreign 2017]

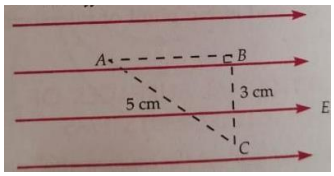
If $A = \begin{bmatrix} 1 & -2 & 0 \\ 2 & 1 & 3 \\ 0 & -2 & 1 \end{bmatrix}$, find A^{-1} and hence solve the system of equations $x - 2y = 10$; $2x + y + 3z = 8$; and $-2y + z = 7$. [Foreign 2017]

PHYSICS (Maths & Biology)

1. Electric field intensity at point 'B' due to a point charge Q' kept at point 'A' is 24 NC^{-1} and the electric potential at point 'B' due to same charge is 12 JC^{-1}. Calculate the distance AB and also the magnitude of charge Q.

2. Twenty-seven drops of same size are charged at 220 V each. They coalesce to form a bigger drop. Calculate the potential of the bigger drop.

3. Three points A, B and C lie in a uniform electric field (E) of 5×10^{3} NC^{-1} as shown in the Fig.. Find the potential difference between A and C



4. Given a uniform electric field E = 5×10^{4} i N/C,find the flux of this field through a square of 10 cm on a side whose plane is parallel to the Y-Z plane. What would be the flux through the same square if
the plane makes a 30° angle with the X-axis ?

5. A spherical Gaussian surface encloses a charge of 8.85 x 10^{8} C. (i) Calculate the electric flux passing through the surface. (ii) If the radius of the Gaussian surface is doubled, how would the flux change?

6. A particle of mass m and carrying charge - q_1 is moving around a charge + q_2 along a circular path of radius r. Prove that the period of revolution of the charge - q_1 about + q_2 is given by

$$T = \sqrt{\frac{16\pi^3 \varepsilon_0 mr^3}{q_1 q_2}}$$

7. A 800 pF capacitor is charged by a 100 V battery. After some time the battery is disconnected. The capacitor is then connected to another 800 pF capacitor. What is the electrostatic energy stored ?

8. Calculate the electric potential at the centre of a square of side √2 m, having charges 100 μC, – 50 μC, 20 μC, and – 60 μC at the four corners of the square.

9. Calculate coulomb force between two α-particles separated by a distance of 3.2 x 10^{-15} m in air.

10. Two identical metallic spheres, having unequal, opposite charges are placed at a distance 0.90 m apart in air. After bringing them in contact with each other, they are again placed at the same distance apart. Now the force of repulsion between them is 0.025 N. Calculate the final charge on each of them.

11. Calculate the voltage needed to balance an oil drop carrying 10 electrons when located between the plates of a capacitor which are 5 mm apart. The mass of oil drop is 3 x 10^{-16} kg. Take g = 10 ms^{-2}.

12. Two particles, each having a mass of 5 g and charge 1.0×10^{-7} C, stay in limiting equilibrium on a horizontal table with a separation of 10 cm between them. The coefficient of friction between each particle and the table is the same. Find μ.

13. (I) A 900 pF capacitor is charged by a 100 V battery. How much electrostatic energy is stored by the capacitor ?

(ii) The capacitor is disconnected from the battery and connected to another 900 pF capacitor. What is the electrostatic energy stored by the system ?

(iii) Where has the remainder of the energy gone?

14. A thin metallic spherical shell of radius R carries a charge Q on its surface. A point charge Q/2 is placed at its centre C and another charge +2Q is placed outside the shell at a distance x from the centre as shown in Fig. 1.125. Find

(i) the force on the charge at the centre of shell and at the point A,

(ii) the electric flux through the shell

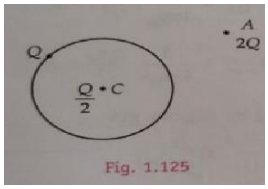


Fig. 1.125

15. Two small identical electrical dipoles AB and CD, each of dipole moment p' are kept at an angle of 120° to each other in an external electric field E pointing along the x-axis as shown in Fig. 1.123. Find the

(1) dipole moment of the arrangement, and

(ii) magnitude and direction of the net torque acting on it.

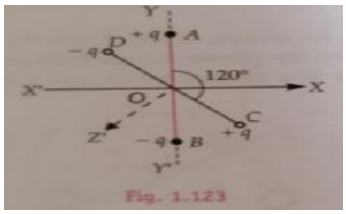


Fig. 1.123

16. Two identical charges, Q each, are kept at a distance r from each other. A third charge q is placed on the line joining the above two charges such that all the three charges are in equilibrium. What is the magnitude, sign and position of the charge q ?

17. Two similarly equally charged identical metal spheres A and B repel each other with a force of 2.0 × 10^{-5} N. A third identical uncharged sphere C is touched to A, then placed at the midpoint between A and B. Calculate the net electrostatic force on C.

18. Two thin concentric and coplanar spherical shells, of radii a and b (b > a) carry charges, q and Q, respectively. Find the magnitude of the electric field, at a point distant x, from their common centre for

(i) $0<x<a$

(ii) $a \leq x<b$

(iii) $b \leq x<\text{infinity}$

19. Two small spheres each having mass m kg and charge q coulomb are suspended from a point by insulating threads each I metre long but of negligible mass. If O is the angle, each thread makes with the vertical when equilibrium has been attained, show that

$q^2 = (4\ mgl^2 \sin^2\theta\ \tan\theta)\ 4\pi\epsilon 0$

20. A free pith-ball A of 8 g carries a positive charge of 5×10^{-8} C. What must be the nature and magnitude of charge that should be given to a second pith-ball B fixed 5 cm below the former ball so that the upper ball is stationary?

21. The electric field in a certain region of space is $(5i+4j-4k)\times10^{\wedge}5\ NC^{-1}$. Calculate electric flux due to this field over an area of $(2i-j)\times10^{\wedge}-2\ m^2$.

ASSERTION-REASONS:-

Directions:

Each of the following questions contain an assertion followed by a reason. Read them carefully and answer the question on the basis of the following options.

a) Both assertion and reason are true and the reason is the correct explanation of assertion.
b) Both assertion and reason are true but the reason is not the correct explanation of the assertion.
c) Assertion is true and the reason is false.
d) Assertion is false and the reason is true/ Both Assertion and Reason are false.

1. Assertion: If a Bob of a simple Pendulum is kept in horizontal electric field, it's period of oscillation will remain same

Reason: If Bob is charged and kept in horizontal electric field, then the time period will be decreased.

2. Assertion: Acceleration of charged particle in non-uniform electric field does not depend on velocity of charged particle.

Reason: Charge is an invariant quantity. That is the amount of charge on a body does not depend on frame of reference.

3. Assertion: Net electric field inside a conductor is zero.

Reason: Total positive charge equals to total negative charge on charged conductor.

4. Assertion: All the charge in conductor gets distributed on whole of its outer surface

Reason: In a dynamic system, charges try to keep their potential energy minimum.

5. Assertion: The coulomb force & the dominating force in universe.

Reason: The coulomb force is weaker than the gravitational force.

6. Assertion: The tyres of aircraft are made slightly conducting

Reason: If a conductor is connected to ground, the extra charge induced on the conductor will flow to the ground.

7. Assertion: In a non-uniform electric field, a dipole will have translatory as well as rotatory motion.

Reason: In a non-uniform electric field, a dipole experiences a force as well as a torque

8. Assertion: In absence of externally applied field the displacement per Unit volume of polar dielectric-material is always zero.

Reason: In polar dielectrics each molecule has a permanent dipole moment but these are randomly oriented in the absence of an externally applied electric field.

9. Assertion: Electric Potential of earth is taken zero.

Reason : No electric field exists on the Earth’s surface

10. Assertion: Work done in moving a charge between any two points in uniform

electric field is independent of the path followed by charge, between these points.

Reason: Electrostatic forces are not conservative.

11. Assertion: A metallic shield in the form of a hollow shell may be built to block an Electric field Reason: In a hollow spherical shield, the electric field inside it is zero at every point

12. Assertion: Dielectric polarisation means formation of positive and negative charges inside the dielectric.

Reason: Free electrons are formed in this process

13. Assertion : when charges are shared between any two bodies, no charge is really lost and some loss of energy does occur.

Reason: Some energy disappears on form of heat, sparking etc

14. Assertion : A spherical equipotential surface is not possible for a point charge

Reason: A spherical equipotential is not possible inside a spherical capacitor.

15. Assertion: Lines of force are perpendicular to conductor surface.

Reason: Generally, electric field line is perpendicular to Electric field.

16. Assertion: If a dielectric is placed in external field, then field inside dielectric will be less than applied field.

Reason: Electric field will induce dipole moment opposite to field direction

17. Assertion: charge is never lost from a condenser of high capacity to condenser of low capacity.

Reason: flow of charge between two bodies connected by a thin wire is determined by charges on them.

18. Assertion: the force b/w plates of a parallel plate capacitor is proportional to charge upon it

Reason: Electric force is equal to charge per unit area.

CHEMISTRY (Maths & Biology)

1. Non-ideal solutions exhibit either positive or negative deviations from Raoult's law. What are these deviations and why are they caused? Explain with one example for each type. (Delhi 2010)

2. A 1.00 molal aqueous solution of trichloroacetic acid (CCl_3COOH) is heated to its boiling point. The solution has the boiling point of 100.18°C. Determine the van't Hoff factor for trichloroacetic acid. (K_b for water = 0.512 K kg mol^{-1}) (Delhi 2012)

3. 18 g of glucose, $C_6H_{12}O_6$ (Molar mass – 180 g mol^{-1}) is dissolved in 1 kg of water in a sauce pan. At what temperature will this solution boil? (K_b for water = 0.52 K kg mol^{-1}, boiling point of pure water = 373.15 K) (Delhi 2013)

4. Explain why on addition of 1 mol of glucose to 1 litre of water, the boiling point of water increases.

5. A solution of glycerol ($C_3H_8O_3$; molar mass = 92 g mol^{-1}) in water was prepared by dissolving some glycerol in 500 g of water. This solution has a boiling point of 100.42 °C. What mass of glycerol was dissolved to make this solution? Kb for water = 0.512 K kg mol^{-1}.

6. A solution containing 30 g of non-volatile solute exactly in 90 g of water has a vapour pressure of 2.8 kPa at 298 K. Further 18 g of water is added to this solution. The new vapour pressure becomes 2.9 kPa at 298 K. Calculate

(i) the molecular mass of solute and (ii) vapour pressure of water at 298 K.

7. A 10% solution (by mass) of sucrose in water has freezing point of 269.15 K. Calculate the freezing point of 10% glucose in water, if freezing point of pure water is 273.15 K.
Given: (Molar mass of sucrose = 342 g mol^{-1}) (Molar mass of glucose = 180 g mol^{-1}) (Delhi 2017)

8. The vapour pressure of pure liquids A and B at 400 K are 450 and 700 mmHg respectively. Find out the composition of liquid mixture if total vapour pressure at this temperature is 600 mmHg. (Comptt. Delhi 2017)

9. Explain why on addition of 1 mol glucose to 1 litre water the boiling point of water increases.
(b) Henry's law constant for CO_2 in water is 1.67×10^8 Pa at 298 K. Calculate the number of moles of CO_2 in 500 ml of soda water when packed under 2.53×10^5 Pa at the same temperature. (Comptt. All India 2017)

10. (a) Define the following terms :
(i) Ideal solution (ii) Osmotic pressure
(b) Calculate the boiling point elevation for a solution prepared by adding 10 g $CaCl_2$ to 200 g of water, assuming that $CaCl_2$ is completely dissociated.
(K_b) for water = 0.512 K kg mol^{-1}; Molar mass of $CaCl_2$ = 111 g mol^{-1}) (Comptt. All India 2017)

11. Define the terms specific conductance, molar conductance and equivalent conductance. Derive the relationship between molar conductance and equivalent conductance.

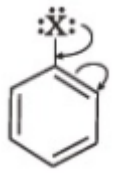
12. 3. What is the relationship between Gibbs free energy of the cell reaction in a galvanic cell and the emf or Ecell ? When will the maximum work be obtained from a galvanic cell ?

13. . Zn rod weighing 25 g25 g was kept in 100 mL100 mL of 1M1M copper sulphate solution. After certain time interval, the molarity of Cu2+Cu2+ was found to be 0.8 M0.8 M . What is the molarity of $SO4-2SO4-2$ in the resulting solution and what should be the mass of ZnZn rod after cleaning and drying?

14. How many grams of chlorine can be produced by the electrolysis of matters NaCl$NaCl$ with a current of 1.02 A1.02 A for 1515 min?

15. . A cell contains two hydrogen electrodes. The negative electrode is in contact with a solution of $10-5H+10-5H+$ ions. The emf of the cell is 0.118 V0.118 V at 298 K298 K . Calculate the concentration of the H+$H+$ ions at the positive electrode.

16. **.** Draw other resonance structures related to the following structure and find out whether the functional group present in the molecule is ortho, para directing or meta directing.



17. i. bromomethane, chloromethane, dichloromethane. (Increasing order of boiling points).

ii. 1-chloropropane, isopropyl chloride, 1-chlorobutane (Increasing order of boiling point)

iii. dichloromethane, chloroform, carbon tetrachloride. (Increasing order of dipole moment.

iv. $CH3FCH3F$, $CH3ClCH3Cl$, $CH3BrCH3Br$, $CH3ICH3I$ (Increasing reactivity towards Nucleophilic substitution and increasing order of dipole moment)

v. o,m,p-dichlorobenzenes (Increasing order of melting points)

18. Complete the following reactions:

(i) $CH3\text{-}CH2\text{-}Cl + AgNO2 \rightarrow$ (ii) $(CH3)3CBr + KOH \xrightarrow{Ethanol}$

(iii) $CH3CH2Br + KCN \xrightarrow{aq.}$ (iv) $CH3CH(Br)CH2CH3 + NaOH \xrightarrow{Water}$

19. How will you bring about the following conversions?

i. benzene to 3-bromonitrobenzene
ii. 1-bromopropane to 2-bromopropane
iii. benzene to 4-bromo-1-nitrobenzene
iv. aniline to chlorobenzene
v. 2-methyl-1-propene to 2-chloro-2-methylpropane

20. Explain the following reaction with equation

i. Finkelstein reaction
ii. swarts reaction
iii. friedal craft acylation reaction
iv. Sandmeyer reaction
v. wurtz fittig reaction

English

Read the following books and write a review on anyone.
1. The Mountain is You - Brianna Wiest
2. Attitude is Everything - Jeff Keller

XII Biology Holiday Homework 2024-2025

Biology

Short Answer Questions

1. Define nucleotide. What are its components?
2. Differentiate between purines and pyrimidines. Give examples.
3. Explain the significance of the Griffith's experiment.
4. What is the role of DNA polymerase in DNA replication?
5. Describe the structure of a DNA double helix as proposed by Watson and Crick.
6. What is a replication fork? Why is it important in DNA replication?
7. Explain the concept of semiconservative replication of DNA.
8. What is the function of tRNA in protein synthesis?
9. Define a codon and explain its significance in the genetic code.
10. What is the role of ribosomes in translation?

Long Answer Questions

1. Describe the Hershey-Chase experiment and explain how it proved that DNA is the genetic material.
2. Explain the process of transcription in prokaryotes. How is it different from transcription in eukaryotes?
3. Describe the process of translation in detail, including initiation, elongation, and termination.

4. What are operons? Explain the Lac operon with the help of a diagram.
5. Explain the different types of RNA and their roles in the process of protein synthesis.
6. Discuss the structure and function of chromosomes. How do they carry genetic information?
7. Critical Thinking Questions
8. If a mutation occurs in the promoter region of a gene, what effect might this have on gene expression? Explain.

English(Biology and Commerce)

1) Answer the following questions, in about 120-150 words.

A) In the story, the third level' By Jack Finney, Charlie is obsessed with finding the third level. In an attempt to thrash out whether this obsession is a good quality or a harmful one, Charlie 's wife expresses her thoughts in a diary entry .
As Louisa Charlie's wife , write this diary entry . support your response with reference to the story.
You may begin this way:
I have been married to Charlie
a few years now and I have always known him to be an intelligent man with an imaginative mind .However, his recent obsession with finding the Third level has.....

B)The last lesson reflects the flows in human character that led to the sad plight of people In Alsace. Substantiate your answer with evidence from the text.

C) The Maharaja's servants were obedient and adoring . Despite this, the Maharaja missed the chance to murder the hundredth tiger.
As a part of the research ,discuss whether you find them truly sincere towards him or not. Are they driven by fear when they obey him? Do we find a similarity in today's political Order?

2) Bali High Public School has recently created Cure Green, a dedicated area for local medicinal herbs and shrubs, adjacent to the flower garden, on campus. As Rachel Tiwari, Captain of the Eco - Club, draft a notice for the school notice board , informing students of classes 11th and 12th , about a guided walkthrough Cure Green, post assembly, on Friday, 10 July. Invite care -giver applications, for Cure Green.(50 words)
3) You are the Student Head, Cultural Affairs ,at M. K.Sr. Sec. school. Your school is organising a 2- day Yoga camp over the weekend ,for parents of the school students, create an invitation ,inviting the school parents for this yoga camp .Share information about the camp organisers and include other necessary details (50 words)

Class XII Humanities Holiday Homework 2024-2025

Political Science

Objective: - To enable the students to know about the inventions of new concepts in world politics and constitution of India.

To develop 21st century managerial skills of co-ordination, self-direction and time management.

To understand contemporary political issues in context to our past. To develop a global perspective and an international outlook

Assignment: - Project Work

Project Ideas/Topics

Relevance of SAARC as a forum of regional cooperation. U.S. dominance in World politics in the Post-Cold War era

India’s role in Non Aligned Movement.

Civil Society Movements - Role and participation in India.

Relevance of the United Nations in a Unipolar World.

Understanding Resource Geopolitics and Environment degradation

India's external relations -Critical analysis of the foreign policy of India especially with its immediate neighbours (Pakistan, China, Srilanka, Nepal, Myanmar) Popular movements in the Post-Independence era and their outcomes.

Project on the role played by the regional aspirations in backing the secessionist and insurgency movement in India India's response to ASEAN as a dialogue partner.

GUIDELINES FOR THE PROJECTS:

It must be emphasized that the process of doing the project is as important as the final project. Once the project/projects are chosen, there should be a process of brainstorming to make out a draft/structure for the project before embarking on research.

Internet sites could be referred, but care must be taken in selecting, using and citing these sites.

Avoid plagiarism

Marks to be awarded for content and originality and not for decorative elements and embellishments.

Projects must be the original work of the student.

Project may be supported by- Data, fact sheets, maps, articles, newspaper clips Maximum of 25-30 page projects.

Guidelines for Project Work

The expectations of the project work are as follows-

1. Students have to complete only one project in each
academic session from the above five topics.
2. Project should be hand written
3. It will be an independent, self-directed piece of study

Scope of the project

Learners may work upon the following lines as suggested following

1. Choose a title/topic
2. Certificate
3. Acknowledgement
4. Index
5. Introduction
6. Main event, Origin, history, identify the causes, consequences, and remedies
7. Validity, reliability of case study used for the project
8. Report Writing
9. Draw the relevant Conclusion
10. Bibliography

General Instructions for assignment questions /worksheet (1-4)

1) The work should be done neatly and in a systematic way.
2) The given questions are to be done in your respective subject notebooks.

HISTORY

Project Topics -are as mentioned below choose any one of them and prepare the project file

1.The Indus Valley civilization: The Archaeological Excavations and findings.
2.The History and legacy of the Mauryan Empire.
3.Bhakti Movement: Interpretations and commentaries.
4.The Mystical Dimensions of Sufism.
5.The Architectural Culture of the Vijaynagar Empire.
6.Mauryas : The Empire Builders.
7.Harappa as Representation of True Indian Culture.
8.The process behind framing Indian Constitution.
9.Buddha' s Path of Enlightenment.
10.Mahabharat: As an Epic
11.An Analytical study of the Mahabharata : As an epic

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Projects must be the original work of the student.
Project may be supported by- Data, fact sheets, maps, articles, newspaper clips
Maximum of 25-30 page projects.

English

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2. Attitude is Everything - Jeff Keller

Geography

A. Complete Notebook-Notes + Exercise (including all maps & Graphs done in class) + make 15 Question 1 markers from each lesson.

Book 1-Fundamentals of Human Geography:
1. Human Geography Nature & Scope
2. The World Population: Distribution, Density & Growth
3. Human Development
4. Primary Activities

Book 2-India-People & Economy-

B. Activity:
1. Population: Distribution, Density, Growth & Composition
Interview a lady vegetable vendor, cobbler and a sweeper in the community & note how their opportunities were limited because of gender caste & income.

C. File Work:
Use A3 Size Sheets for making a file..
1. Data, its Sources & Compilation
2. Define Data
3. Differentiate Primary & Secondary Data
4. List Several Sources of data
5. Data Processing
6. Calculate Mean, Median, Mode using direct & Indirect Method:-
7. Calculate mean Rainfall of your City
8. List ten Himalayan Peaks with their Heights & calculate median height using data
9. Representation of data-
10. Construction of diagrams:
11. Line graph-Growth Rate of Population in India 1901-2001
12. Construct a line & Bar Graph to represent the average monthly rainfall & temperature of Delhi.
13. Poly Graph-Construct a Polygraph to compare the sex ratio of different states
14. Construct a line & Bar Graph to represent the average monthly rainfall & temperature of Delhi
15. Multiple Bar Diagram Represents Decadal Literacy Rate, male literacy & Female Literacy
Compound Bar Diagram.
Pie Diagram- India's Export to major regions of the world 2010-2011
Thematic maps
Construction of dot map- India's Population 2011
Choropleth map-State wise Variation in Population Density

Isopleths map
Spatial Information Technology
➢Introduction to GIS; hardware requirements and software modules; data formats; raster and vector data, data input, editing and topology building, data analysis; overlay and buffer.

GEOGRAPHY PROJECT INSTRUCTIONS ARE AS FOLLOWS:
1. Project must be hand written. Print outs will not be accepted.
2. Project to be done individually.
3. Page Limit-20-25 pages.
4. Pictures must be incorporated.
5. Assessment will be based on creativity, presentation and research work conducted by the student.
6. Students must write 25 one-mark question-answers from their project topic. 1. Prepare a project file consisting pages 15-20 on "SPATIAL INFORMATION TECHNOLOGY"

D. MAP WORK-

On the political map of India locate the following-

a.The state having smallest population

b. The state having lowest density of population

c. The state having the highest percentage of urban population

d. The largest metropolitan city located on the east coast of India

a.The largest wheat producing state in India

XII Commerce Holiday Homework 2024-2025

ECONOMICS

SECTION – A : (1 x10=10)

1. Read the following statements carefully :

Statement 1 : Primary deposits are the cash deposits by general public with commercial banks.

Statement 2 : Secondary deposits are those deposits which arise on account of credit provided by the commercial banks to the people.

In light of the given statements, choose the correct alternative from the following :

(a) Statement 1 is true and Statement 2 is false.

(b) Statement 1 is false and Statement 2 is true.

(c) Both Statements 1 and 2 are true.

(d) Both Statements 1 and 2 are false.

2. The difference between National Income at market price and National Income at factor cost is _____.

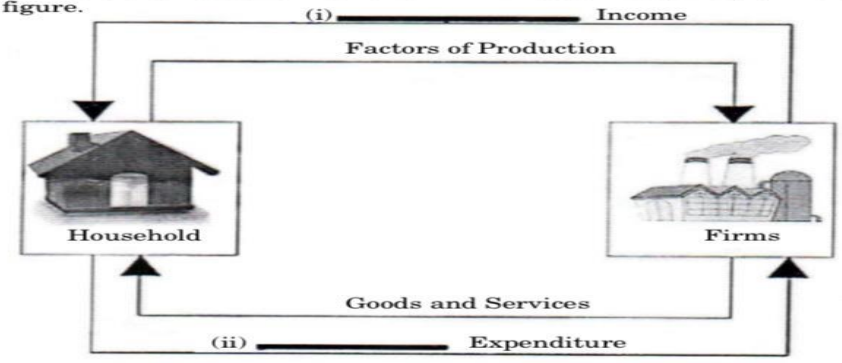
(a) net indirect taxes. (b) net factor income from abroad. (c) consumption of fixed capital. (d) market price

3. The rate at which commercial banks borrow from the Reserve Bank of India to meet their long term requirements is known as _____.

(a) Margin requirement (b) Bank rate (c) Repo rate (d) Reverse repo rate

4.

Choose the correct alternative to fill in the blanks (i) and (ii) in the figure.

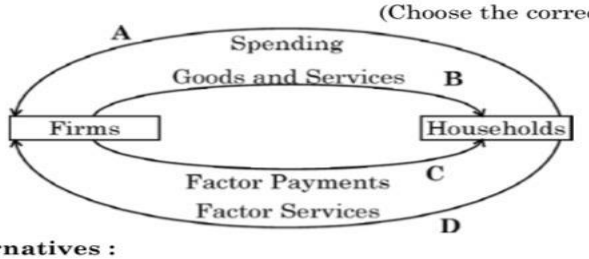


Alternatives :
(a) National, Production (b) Factor, Production
(c) Factor, Consumption (d) National, Consumption

5. "The central bank has imposed fine on Hisar Urban Cooperative Bank Ltd. and Andaman and Nicobar State Cooperative Bank Ltd. for violation of banking norms." According to the given report, identify the function of the central bank.
   (a) Issue of currency. (b). Banker to the public. (c). Banker to the Government. (d). Banker's Bank
6. Ms. Iqra Ansari, a teacher, was explaining in her class about various types of deposits with the commercial banks. She quoted that -
   "These deposits form a part of Ml measure of money supply and are payable on demand by the commercial banks."
   Identify the type of deposits she was explaining about and choose the correct alternative :
   (i) Demand Deposits (ii) Time Deposits (iii) Post Office Deposits
   Alternatives : (a) Only (i). (b) (i) and (ii). (c) Only (ii). (d) (i), (ii) and (iii)
7. Demand Deposits include _____.
   (a) Currency and coins held with the public. (b) Other deposits with the Government
   (c) Savings Account Deposits and Fixed Deposits. (d) Current Account Deposits and Fixed Deposits
8. Identify, flow variable from the following :
   (a) Distance between Delhi and Amritsar. B. Annual expenditure of a school
   (c)Bank balance of Mr. Mukesh as on 31st March, 2022.(d) Investments of Mr. Mohit as on 31st December, 2021
9. The Reserve Bank of India (RBI) _____ government securities in a bid to _____ the stock of money in the economy.
   (a) sells, decrease. (b) purchases, decrease. (c) sells, increase. (d) purchases, not change
10.

On the basis of the figure given below, identify the type of flow indicated by B and D :

(Choose the correct alternative)



Alternatives :
(a) Real flow (b) Money flow
(c) Nominal flow (d) National flow

SECTION -B (3x5= 15)

11. Read the following news published on September 26, 2022:
    "The central bank has increased the benchmark lending rate by 240 basis"
    Identify the likely cause and consequences behind this action taken by the Reserve Bank of India.
12. Differentiate between 'Value of Output' and Value Added'.
13. With suitable examples, distinguish between final goods and intermediate goods.
14. Using a suitable numerical example, distinguish between Real Gross Domestic Product (GDP) and Nominal Gross Domestic Product (GDP).
15. Justify the following statement : "Depreciation is a fall in the value of an asset due to expected obsolescence."

SECTION -C (4x5=20)

16. Using a hypothetical numerical example, explain the effect of rise in Reserve Ratio on credit creation by the commercial banks.
17. "National Income is always greater than Domestic Income." Do you agree with the given statement? Support your answer with a valid reason.
18. "In the estimation of Gross Domestic Product (GDP) using expenditure method, focus lies only on expenditure by the residents of the country." Do you agree with the given statement ? Give valid reasons for your answer.
19. "The process of credit creation by commercial banks comes to an end when the total of required reserves become equal to the initial deposits." With the help of a numerical example, prove that the given statement is true.
20. "Many goods and services which may contribute to welfare, but are not included in estimating Gross Domestic Product (GDP)." Do you agree with the given statement ? Give valid reason in support of your answer.

SECTION-D (5x3=15)

21. Find NVAmp

i) Fixed capital good with a life span of 5 years	15
ii) Raw Materials	6
iii) Sales	25
iv) Net Change in Stock	(-) 2
v) Taxes on production	1

22. Firm A spent Rs 500 crores on non-factor inputs and sold goods worth Rs 600 crores to firm B and & 300 crores to firm C. Firm B whose value added is ₹ 1,000 crores sold half its output to firm C & half to firm D. Value added by firm C is 1/2 of value added of firm D. Firm C and Firm D sold their entire output to households. Value of Output of firm C is equal to firm B's value of output. Calculate value of output of firm D.
23. A. How should the following be treated in estimating National Income of a Country? Give valid reasons.
    (i) Profits earned by Foreign Banks in India. (ii) Expenditure on upgradation of fixed asset by a firm.
    B. Suppose in a financial year, the Gross Domestic Product (GDP) at market price of a country was ₹ 1,100 crore. Net factor income from Abroad was ₹100 crore, the net indirect taxes was ₹150 crore and National income was ₹850 crore.
    Calculate the value of depreciation, on the basis of above information.

English

1) Answer the following questions, in about 120-150 words.

A) In the story, the third level' By Jack Finney, Charlie is obsessed with finding the third level. In an attempt to thrash out whether this obsession is a good quality or a harmful one, Charlie 's wife expresses her thoughts in a diary entry .
As Louisa Charlie's wife , write this diary entry . support your response with reference to the story.
You may begin this way:
I have been married to Charlie
a few years now and I have always known him to be an intelligent man with an imaginative mind .However, his recent obsession with finding the Third level has.....

B)The last lesson reflects the flows in human character that led to the sad plight of people In Alsace. Substantiate your answer with evidence from the text.

C) The Maharaja's servants were obedient and adoring . Despite this, the Maharaja missed the chance to murder the hundredth tiger.
As a part of the research ,discuss whether you find them truly sincere towards him or not. Are they driven by fear when they obey him? Do we find a similarity in today's political Order?

2) Bali High Public School has recently created Cure Green, a dedicated area for local medicinal herbs and shrubs, adjacent to the flower garden, on campus. As Rachel Tiwari, Captain of the Eco - Club, draft a notice for the school notice board , informing students of classes 11th and 12th , about a guided walkthrough Cure Green, post assembly, on Friday, 10 July. Invite care -giver applications, for Cure Green.(50 words)
3) You are the Student Head, Cultural Affairs ,at M. K.Sr. Sec. school. Your school is organising a 2- day Yoga camp over the weekend ,for parents of the school students, create an invitation ,inviting the school parents for this yoga camp .Share information about the camp organisers and include other necessary details (50 words)

BST

Solve all the mcq, assertion reason based questions, statement questions and case studies of chapter 1, 2 ,3 and 4 from the shared Sample papers

ACCOUNTANCY

1. If a fixed amount is withdrawn on the first day of every quarter, for what period of interest on total drawings will be calculated?

2. Distinguish between fixed and fluctuating capital account on the basis of credit balance?

3. A group of 40 people wants to form a partnership firm. They want your advice regarding the maximum number of persons that can be there in a partnership firm and the name of the Act under whose provisions it is given?

4. In the absence of partnership deed, at which rate interest is allowed on a partners loan?

5. Goodwill is an …….. asset, but not a …….. asset.

6. A and B were partners sharing profits & losses in the ratio of 5:3. On 1st April 2014, their capital accounts showed balances of ` 3, 00,000 & `2, 00,000 respectively. Calculate the amount of profit to be distributed between the partners if the partnership deed provided for interest on capital @ 10% per annum and the firm earned a profit of `45000 for the year ended 31st March 2015.

7. M and N are partners sharing profits & losses in the ratio of 2:3. On 1st April 2015, their capital accounts showed balances of ` 70,000 & `60,000 respectively. The drawings of M & N during the year 2015-16 were `16,000 & `12,000 respectively. Both the amounts were withdrawn on 1st January 2016. It was subsequently found that the following items had been omitted while preparing final accounts for the year ended 31st March 2016.

(a) Interest on capitals @6% p.a.

(b) Interest on drawings @6% p.a.

(c) M was entitled to a commission of `4,000 for the whole year.

Show your workings clearly and pass necessary adjustment entry in the books

of the firm.

8. W, X and Y are partners sharing profits & losses in the ratio of 2:2:1. X was guaranteed a minimum profit of `10, 00,000. The firm earned a profit of `17, 50,000 for the year ended 31st March 2021. Pass journal entries and prepare profit & loss appropriation a/c.

9. An existing firm had assets of `4,00,000 including cash of `15000. Its creditors amounted to `20000 on that date. The partners' capital account showed a balance of `300000 and reserves amounted to `80000. If the normal rate of return is 10% and the Goodwill of the firm is valued at `75000 at three years purchase of super profit find average profit of the firm.

10. X, Y and Z are partners sharing profits & losses in the ratio of 5:4:1. It is now agreed that they will share future profits in the ratio of 3:3:4. Goodwill is valued at `1, 00,000. You are required to pass a single journal entry for the treatment of goodwill.

11. A B and C are partners in firm manufacturing furniture. They have been sharing profit and losses in the ratio of 5:3:2. From 1st April 2017 they decided to share future profits & losses in the ratio of 2:5:3. Their balance sheet shows a Debit balance of ` 4000 in profit and loss account; balance of `36000 in general reserve and a balance of `12000 in workmen's compensation reserve. It was

agreed that—

(a) The Goodwill of the firm be valued at `76000.

(b) The stock (book value of `40,000) was to be depreciated by 8%.

(c) Creditors amounting to `900 were not likely to be claimed.

(d) Claim on account of workmen compensation amounted to `20,000.

(e) Investments (book value `38000) were revalued at `40,000. Pass

necessary journal entries for the above.

12. What is meant by reconstitution of partnership firm?

13. How does the factor efficiency of management affect the goodwill of the firm?

14. Distinguish between sacrificing ratio and gaining ratio?

15. State any three circumstances when need for valuation of goodwill of a firm

may arise?

16. Give two circumstances in which sacrificing ratio may be applied?

17. State the ratio in which the partners share profits or losses on revaluation of Assets and liabilities when there is a change in profit sharing ratio among the existing partners?

18. How are the accumulated profits and losses distributed when there is change in profit sharing ratio amongst the existing partners?

19. Assertion (A): Rent payable to a partner is debited to profit & loss a/c and not

debited to profit & loss appropriation a/c.

Reason(R): Rent payable to a partner is a charge against profits and not an

appropriation of profit hence, it is debited to profit & loss a/c.

Codes:

(a) Both A and R are true, but R is not the correct explanation of A.

(b) Both A and R are true and R is the correct explanation of A.

(c) Both A and R are false.

(d) A is false but R is true.

20. Assertion (A): A minor cannot be admitted in a firm as a partner.

Reason(R): A minor can participate in the profits of the firm.

Codes:

(a) A is correct but R is wrong.
(b) Both A and R are correct.
(c) A is wrong but R is correct.
(d) Both A and R are false.

OPTIONAL SUBJECT

Informatics Practices (065)

Q1. What will be the Output ?

```
import pandas as pd
data = [1,2,3,4,5]
df = pd.DataFrame(data)
print (df)
```

Q2. Observe the following data :

	PNAME	COMPANY	PRICE	QTY
P1	TV	LG	10000	10
P2	AC	WHIRLPOOL	25000	5
P3	TV	SONY	15000	15
P4	WM	WHIRLPOOL	12000	8
P5	AC	LG	28000	12
P6	TV	LG	15000	5

Answer the following questions on the basis of above Data-

1.Create dataframe product for above data.

2.display complete data from dataframe.

3.Display no. of rows in dataframe

4.Display no. of columns in dataframe

5.Display product name from above dataframe.

6.Display details of products from P2 to P4.

7.Display columns from pname to price for all products.

8.Display columns from pname to price for P2 to P4 products.

9.Display the Pname and price of all products.

10.Display the detail of P2 product only .

11.Display the record of p2 and p5 products.

12.Display the pname and price of p2 and p5 products

13.Display pname of p4 product .

14.Display price of p2 product

15.To add new column amount which is qty*price

16.To add new column launch_year with different values.

17.To modify the values of launch_year field.

18.To insert new record of product P7.

19.To modify record of P5

20.To change company of P2 product .

21.to delete column launch_year

22.to Detete column qty and amount columns.

23.to delete record of p5 product .

24.to delete first three records.