

Holiday Homework 2016-17

Class XII - Sub-English

Flamingo

Ch-1 The Last Lesson (Alphonse Daudet)

Questions :

1. Why did M.Hamel not scold Franz for not learning his lesson ?
2. Write the character sketch of Mr.M.Hamel.
3. Who did M.Hamel blame for the neglect of learning on the part of boys like Franz ?
4. How did Franz react to the declaration that it was their last French lesson ?
5. Explain the importance of the parting message on the day of ' The Last Lesson '.

Ch-2 Lost Spring (Anees Jung)

Questions :

1. Justify the title ' The lost Spring '.
2. Is sahib happy working at the tea stall ? Explain.
3. Mention the hazards of working in the glass bangle industry.
4. What makes the city of Firozabad famous ?
5. Bring out the irony in Saheb 's name.

Poetry

Ch-1 My Mother At Sixty – Six (Kamala Das)

Read the extract below and answer the questions :

And felt that smile and smile

- a) What was the childhood fear that troubled the poetess ?
- b) What does the poetess parting words suggest ?
- c) Why did the poetess smile and smile ?
- d) Explain and felt that old familiar ache.

Vistas

Ch-2 The Tiger King (Kalki)

Questions

1. How did the Tiger King acquire his name ?
2. How did the Tiger King celebrate his victory over the killing of the 100th tiger ?
3. How did the Tiger King meet his end and what is ironical about his death ?
4. Did the Tiger King shoot the 100th tiger ? Give reasons of your answer.
5. When did the Tiger King stand in danger of losing his kingdom ?

Novel

Read the Novel ' The Invisible Man ' and write a brief summary of it in 300 words.

Class-XII Hindi

- Learn Print Media
- किताब – आरोह भाग 2
Lesson 1 and 2 Prose
Lesson 1 and 2 Poetry
Do exercise work

Class XII–Physics

1. Two small spheres each having mass m kg and charge q Coulomb are suspended from a point by insulating threads each ' l ' metre long . Prove that equilibrium separation

$$x = \left(\frac{q^2 l}{2\pi \epsilon_0 mg} \right)^{1/3}$$

when each thread makes a small angle θ with the vertical.

2. A charge Q located at a point \vec{r} is in equilibrium under the combined electric field of three charges q_1 , q_2 and q_3 . If the charges q_1 , q_2 are located at points \vec{r}_1 and \vec{r}_2 respectively, find the direction of the force on Q , due to q_3 in terms of q_1 , q_2 , q_3 , \vec{r} , \vec{r}_1 and \vec{r}_2 .
3. Two point charges q_1 and q_2 are located at points $(a,0,0)$ and $(0,b,0)$ respectively. Find the electric field, due to both of these charges, at the point $(0,0,c)$.
4. Two particles A and B, each having a charge Q , are placed a distance d apart. Where should a particle of charge q to be placed on the perpendicular bisector of AB so that it experiences maximum force ? What is the magnitude of this maximum Force ?
5. A rod of length L has a total charge Q distributed uniformly along its length. It is bent in the shape of a semicircle. Find the magnitude of the electric field at the centre of curvature of the semicircle.
NCERT Exercise : 1.1 to 1.24, 1.26, 1.27, 1.30
Solved examples : 1.6, 1.7, 1.9, 1.10, 1.11 and 1.12

Class XII – Biology

1. Draw flow chart of the following :
 - i) Spermatogenesis
 - ii) Oogenesis
 - iii) Micro Sporogenesis
 - iv) Megasporogenesis
2. Hormonal control of male & female reproductive system.
3. Draw well labeled diagram of the following :
 - L.s of angiospermic ovule,
 - Matured embryosac,
 - Sperm, Ovum T.S. of anther,
 - diagram showing hormonal role of menstruation

Class XII - Maths

PART- A

1. If $A = a_{ij} = \frac{i^2 + j^2}{2}$ then construct a matrix of 3×2 order
2. If $\text{adj}(2A) = k \text{adj}(A)$ find k is A is matrix of 3×3 order.
3. Using determinants find the equation of line passing through (1,2) and (2,3).
3. If A is a square matrix and $|A| = 2$, then write the value of $|AA'|$ where A' is transpose of A.
4. If $A^2 - A + I$, then find the inverse of A.
5. If A is an invertible matrix of order 3×3 and $|A| = 5$ then find $|\text{adj}A|$.
6. Find the value of x if $\begin{vmatrix} 2 & 3 \\ 4 & 5 \end{vmatrix} = \begin{vmatrix} x & 3 \\ 2x & 5 \end{vmatrix}$ Find x.
7. Using PMI prove that $(AB)^n = A^n B^n$ if $AB = BA$.

PART -B

8. Using elementary transformation method find the inverse of $A = \begin{vmatrix} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{vmatrix}$

9. Use the product of $\begin{pmatrix} 1 & -1 & 2 \\ 0 & 2 & 3 \\ 3 & -2 & 4 \end{pmatrix} \begin{pmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{pmatrix}$ to solve the system of equations :

$$x - y - 2z = 1, 2y - 3z = 1, 3x - 2y + 4z = 2$$

10. If a, b, c are all positive and different, show that $\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$ has a negative value.

11. Prove that $\begin{vmatrix} a+b+c & a & b \\ c & a+b+c & b \\ c & a & a+b+c \end{vmatrix} = (a+b+c)^3$.

12. Using properties of determinant solve for x :

$$\begin{vmatrix} a+x & a-x & a-x \\ a-x & a+x & a-x \\ a-x & a-x & a+x \end{vmatrix} = 0$$

13. Without expanding using properties of determinant prove that

$$\begin{vmatrix} b+c & q+r & y+z \\ c+a & r+p & z+x \\ a+b & p+q & x+y \end{vmatrix} = 2 \begin{vmatrix} a & p & x \\ b & q & y \\ c & r & z \end{vmatrix}$$

14. Express $\begin{pmatrix} 1 & 5 & 6 \\ 2 & 3 & 2 \\ -9 & 8 & 4 \end{pmatrix}$ as a sum of symmetric and skew symmetric Matrix.

15. If $A = \begin{pmatrix} 0 & -\tan \frac{\alpha}{2} \\ \tan \frac{\alpha}{2} & 0 \end{pmatrix}$ and I is the identity matrix of 2×2 then show that

$$I + A = I - A \begin{pmatrix} \cos \alpha & -\sin \alpha \\ \sin \alpha & \cos \alpha \end{pmatrix}$$

16. $A = \begin{pmatrix} 1 & 2 & 1 \\ 6 & 5 & 2 \\ 9 & -7 & -1 \end{pmatrix}$ Verify $A \text{adj}A = |A| I$.

17. Find the matrix X so that

$$X \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{pmatrix} = \begin{pmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{pmatrix} .$$

18. By using properties of determinants, show that :

$$\begin{vmatrix} 1 + a^2 + b^2 & 2ab & -2b \\ 2ab & 1 - a^2 + b^2 & 2a \\ 2b & -2a & 1 - a^2 - b^2 \end{vmatrix} = (1 + a^2 + b^2)^2 .$$

19. If A and B are symmetric matrices then show that AB-BA is also symmetric matrices .

20. If $F(x) = \begin{pmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{pmatrix}$ then show that $F(x)F(y) = F(x+y)$.

Class XII Chemistry

- 1 An element crystallizes in a structure having FCC unit cell of edge length 200 pm . Calculate its density , if 200gm of this element contains 24×10^{23} atoms . (ANS = 41.67 g/cm^3).
- 2 Density of iron is 7.86 g cm^{-3} and edge length of unit cell is 286 pm . Find
- 3 An element occurs in BCC structure . If has a cell edge of pm . Calculate its molar mass if its density is 8.0 g/cc . (ANS = 37.6 g/mol).
- 4 An element A crystallises in FCC structure . 200g of this element has 4.12×10^{24} atoms the density of A is 7.2 g am^{-3} . Calculate the edge length of the unit cell .
- 5 The density of copper metal is 8.95 g cm^{-3} . The ration of copper atoms is 127.8 pm . Is the copper unit cell a simple cubic , a body centred cubic or a face centred cubic ? Atomic man of cu is 63.54 g/mol .
- 6 A metal (Atomic man 50)has a body centred cubic crystal structure . The density of metal is 5.96 g cm^3 . Find the volume of the unit cell . (ANS = $V = 27.8 \times 10^{-24} \text{ cm}^3$).
- 7 The density of chromium metal is 7.2 gcm^{-3} , if the unit is cubic with edge length of 289 pm determine the type of unit cell (Simple body centred or face centred) (Cr = 52 g/mol), Na = $6.02 \times 10^{22} \text{ mol}$. (ANS = BCC (Z=2)).
- 8 Calculate the value of Avogadro's Number from the following data . Density of NaCl = 2.165 g/cm , distance between Na^+ & Cl^- ion in NaCl crystal = 281 pm . (ANS = 6.09×10^{23}).
- 9 KF has NaCl structure .What is the distance between K^+ & F^- in KF if density is 2.48 gm/cm . (ANS = 268.8pm)
- 10 Analysis show that nickel oxide has formula $\text{Ni}_{0.98} \text{O}_1$.Calculate the fraction of Ni^{++} & Ni^{3+} ion that exist in nature . (ANS = $\text{Ni}^{2+} = 96\%$, $\text{Ni}^{3+} = 4\%$)
- 11 body centred cubic , what is the edge of unit cell .
- 12 Iron crystallises in a body centred cubic structure calculate the radius of Iron atom if the edge length of unit cell is 286 pm . (ANS = 123.84 pm)
- 13 Radius of an atom is 220pm , if it crystallizes as a face centred cubic lattice . What is the length of the side of unit cell .
- 14 The density of KBR is 2.75 ng/cm . The length of edge of the unit cell is 654pm show that KBR has a face centred cubic structure .
- 15 Silver crystallizes in FCC lattice of edge length of the cell is $4.077 \times 10^{-8} \text{ cm}$

- 16 Gold has cubic crystals whose unit cell has an edge length of 407.9pm . Density of gold is 19.3g/cm . Calculate the number of atoms in a unit cell of Gold . Also predict the type of crystal structure of Gold . (Au =197 u) (ANS=Z =4 , FCC structure) .
- 17 Sodium crystallises in a body centred cubic unit cell ,What is the approximate number of unit cell in 4.6 gm of sodium . [Ans=6×10²²]
- 18 An alloy of cu & Au is found to have copper constituting CCP lattice , If silver atoms occupy the edge centres and gold is present in the body centre what is the formula of the alloy .
- 19 A compound representing alloy of gold & copper crystallises in a cubic lattice in which the gold atoms occupy the lattice points at the corner of a cube & copper atoms occupy the centres of each of the cubic faces . What is the formula of the compound . [Ans =AuCu₃].
- 20 Calculate the packing fraction for the ca unit cell given that ca crystallises in a face centred cubic unit cell. [ANS=0.74].
- 21 A metallic element has cubic lattice . Each edge of the unit cell is 3 Å the density of the metal is 8.55 g/cc . How many unit cell will be present in 50 gm of the metal . [ANS=2.178× 10²³].
- 22 Metallic rhodium crystallise in a face centred cubic lattice with a unit cell edge length of 3.803 Å . Calculate the molar volume of Rhodium including the empty space. [ANS=8.22cm³]
- 23 In a face centred cubic arrangement of A and B atoms , whose A atoms are at the corner of the unit cell & B – atoms are the face centres . One of the B atoms missing from one of the face in unit cell the simplest formula of the compound is ? (ANS =A₂B₅).
- 24 In a solid oxide ions are arranged in CCP , cations A occupy 1/8th of tetrahedral void and cation B occupy 1/4th of the octahedral void the formula of the compound is .
- 25 In a cubic unit cell ,seven of the eight corners are occupied by atoms A and centres of face are occupied by atoms B the general formula of the compound is (ANS=A₇B₂₄)
- 26 A simple cubic lattice consist of eight identical spheres of radius R in contact placed at the corner of a cube , what is the volume of the cubical box that will just enclose these eight spheres & what fraction of this volume is actually occupied by the spheres . (ANS=64R³ ,52.33%).
- 27 Atoms of element B form hcp lattice & these of element A occupy 2/3rd of tetrahedral void . What is the formula of the compound by element A& B. (ANS=A₄B₃).

Class XII - Economics

Part – A

1. Define micro-economics.
2. Give examples of micro-economic variables.
3. Give two examples of positive statement of economics.
4. State two normative statements of economics.
5. Explain “ How to Produce “ with an example.
6. What is an economic problem ? Why does it arise ?

Part – B

7. Give two examples of macro-economics variables.
8. What is GNP deflator ?
9. Give two examples of Stock Variables.
10. Give two examples of leakages.

11. Distinguish between Intermediate and Final goods.
12. What is consumption of Fixed capital ? How does it differ from Capital loss ?
13. Distinguish between Gross Domestic Products (GDP) at market price and Net National product at Factor cost.
14. “ All capital goods are producer goods but all producer Goods are not capital goods “ Explain.
15. Solve 10 numericals based on :
 - i) Private Income
 - ii) Personal Income
 - iii) Personal Disposable Income
 - iv) National Disposable Income

Class XII - Political Science

Prepare a brief Project (paper based) on important events of Partition of India.

Class XII - History

On an outline Political Map of India, locate & label important places of Harappan Centre and major rock edicts of Ashoka.

CLASS-XII, Entrepreneurship

Chapter 1

- Q1 Randhir a young entrepreneur is often found in the marketplace. He enjoys seeing what are people eating, doing, wearing and using. Further he visits Trade shows not to buy but to see what's hot. Identify Randhir's method of spotting trend.
- Q2 What is idea field? Specify the source in following cases:-
 - A Use of clay as soil and for ceramics.
 - B. Indianised version of American food
- Q3 What is a business opportunity? What factors are involved in the process of sensing an entrepreneurial opportunity?
- Q4 Define the term environment scanning. Explain SWOT matrix in this reference.
- Q5 What is Idea generation?
- Q6 Draw the enterprise process diagram.
- Q7 What is PESTEL model? Explain it with reference to privatisation in steel manufacturing sector.
- Q8 Explain in detail Idea Fields.
- Q9 Ria started her soft toy making factory in her farm house which was situated in outskirts. As per her expectations labours were easily available but she was not getting clients as she had expected. What are the factors which have been ignored before starting the this factory? Suggest the various factors that she has to look into before venturing into business.

Class-XII Computer Science

1. Solve the questions of previous four years back question papers from the topics :
 - i) Revision Tour
 - ii) Class & Object
 - iii) Constructor & Destructor
 - iv) Inheritance

Class XII - Accountancy

- Q1. In the absence of partnership deed, how are the mutual relations of partners governed?
Q2. Distinguish between Fixed Capital A/c and Fluctuating Capital A/c.
Q3. Under which circumstances balances of Fixed Capital A/c may change?
Q4. How would you calculate interest on drawings if equal amount has been drawn on the last day of every month.
Q5. Calculate interest on drawings of Mr. Anand @ 8% p.a for the year ended 31st March, 2016 if he withdrew Rs.5,000 in the beginning of each quarter.
Q6. Calculate the interest on drawings of Mr. Gupta @ 9% p.a. For the year ended 31.03.2016. His drawings are as under:

Date	Amount (Rs.)
30.04.2015	10,000
01.07.2015	15,000
01.10.2015	18,000
30.11.2015	12,000
31.03.2016	20,000

Q7. Lata and Mamta are partners with capital of Rs.3,00,000 and Rs.2,00,000 respectively sharing profits in 7:3 ratio. During the year ended 31.03.2016 they earned a profit of Rs.2,26,440 before allowing interest on partners loan. The terms are as follows:

- (i) interest on capital is to be allowed @ 7% p.a.
- (ii) Lata to get a salary of Rs.2,500 per month
- (iii) interest on Mamta's loan of RS.80,000 for the whole year.
- (iv) interest on drawings of partners @ 8% p.a. Drawings being Lata Rs.36,000 and Mamta Rs.48,000.
- (v) 1/10th of divisible profit should be transferred to General Reserve.

Prepare P & L App A/c and Partner's capital A/c(Both Cases)

Q8. A, B and C are Partners sharing profit and Losses in the ratio of 5:3:1. After the final account have been prepared, it was discovered that interest on drawings had not been taken into consideration. The interest on drawings of partners amounted to A Rs.8,000; B Rs.6,000 and C Rs.4,000. Give the necessary adjusting Journal Entry.

Q9. The partners of a firm distributed the profit for the year ended 31st March, 2016, Rs.1,50,000 in the ratio of 2:2:1 without providing for the following adjustment:

- (i) A and B were entitled to salary of Rs.1,500 per quarter.
- (ii) C was entitled to a commission of Rs 18,000.
- (iii) A and C had guaranteed a minimum profit of Rs.50,000 p.a. to B.
- (iv) Profits were to be shared in the ratio of 3:3:2

Pass necessary adjusting journal Entry.

Q10. A and B are in partnership sharing in the ratio of 4:1. In appreciation of the services of their employee C, who was in receipt of salary Rs 2,400 p.a and commission @ 10% of profit after his salary and commission, they took him into partnership as from 1.04.2015 giving him r/s" share in profits. The agreement provided that any excess over his former Remuneration to which C becomes entitled will be paid out of A's share of profits. The Profits for the year ended 31.03.2016 amounted to Rs.57,000. Prepare P&L Appropriation A/c to show the distribution of profit.

Class-XII, Business Studies

Chapter 1

- Q1- As a management student, Rahim is to study Anthropology, Sociology, Psychology, Physiology, Mathematics, Economic, English, Political science and other subjects different permutation and combination . Which characteristics of management is highlighted in these case?
- Q2- Arvind is working as an Operation Manager at Usha Martin in Ranchi. Which level is he serving. List out any two functions of these level.
- Q3- What are the four E's of leadership to be taken up as a management mantra?
- Q4- You had been to an organization where you were highly satisfied with the orderliness and discipline of employees. You felt that management is working well. Which aspect of management is highlighted here?
- Q5- An organization is going in loss for last two year. A management consultant group had been hired by top level executives. The management consultant team had interviewed various departmental heads . They found that:-
- (a)The production manager said that he was not given proper market feedback.
 - (b)Market manager gave feedback of poor quality produced by the production department therefore sales declined.
 - (c)Finance gave department feedback that money could not be released in time due to lack of fund and information.
- As a member of manager consultant committee. Identify the problem and give solutions.
- Q6- A supervisor of L Company is well-versed in his job and is equally a good HBS (human behavior specialist) but often fails in giving output for production: Identify the area with specification where he is not capable of?
- Q7- An Army School reserves 5% seats for war widows as its basic recruitment policy. Which objective of management is it satisfying?
- Q8- What is SIX SIGMA approach of management and how is it helpful in management?
- Q9- The CEO of a company gives statement in its annual function showing his intention to ensure that the people who are moving out of the gate every evening need to come back next morning to office willingly and with full zeal. Which function of management is highlighted in this statement?
- Q10- Amit, who is a marketing manager of a construction company ensures top level management to get a tender in their favour for flyover construction. This was a tough target for which he requested to get 10% of the contract value to be spent without any clarification. Since it was a major project which would add to the good will of company, top level management accepted this offer. The tender was in favour of the company. How is the act of Amit to be interpreted?
- Q11- Why is management considered as a soft science?
- Q12- As an academic head, Mr.X has to make the academic calendar of the institution for new session and for this he reviews the previous one for various amendments. Which quality of management is highlighted here?
- Q13- Alpha group intends to enter into a new venture which was spotted through SWOT analysis by top level but could not be property worked out by middle level, therefore, low level was failure in its assessment session.
- (a) Underline the phrase which shows the error in diversification plan.
 - (b) Identify the level at fault.
 - (c) Which function of that level could not be performed properly.
- Q14- Coordination is required by managers at every level for the success of management. What is the nature of coordination? Can it be successful without cooperation? Give reasons.
- Q15- Government of India intends to retain monopoly in fighter plane manufacturing unit. Therefore it intends to set up a separate department for the same. What would be the type of structure of the upcoming organization?
