

St. Mary's School, Dwarka
Holiday Homework
Class XII
Week 4
Worksheet 4

Subject: English

M.M-25

Q1. Read the following passage carefully.

1. Faith in progress is deep within our culture. We have been taught to believe that our lives are better than the lives of those who came before us. The ideology of modern economics suggests that material progress has yielded enhanced satisfaction and well-being. But much of our confidence about our own well-being comes from the assumption that our lives are easier than those of earlier generations.
2. The lives of the so-called primitive peoples are thought to have been harsh-their existence dominated by the incessant quest for food. In fact, primitives did very little work. By contemporary standards, we'd have to judge them as very lazy.
3. The key to understanding why these 'stone-age people' failed to act like us-increasing their work effort to get more things-is that they had limited desires. In the race between wanting and having, they had kept their wanting low and, in this way, ensured their own kind of satisfaction. They were materially poor by contemporary standards, but in at least one dimension-time- we have to count them richer.

Based on the understanding of the passage, answer the questions given below: (1x5=5)

- a) What is the basis for progress and growth according to the writer?
- b) What does the writer attribute to modern economics?
- c) What is the writer's image of the primitive people?
- d) What is the key to understanding the primitive peoples' behaviour according to the passage?
- e) How does the writer appreciate the primitives?

Q2. Moon Light Public School, Delhi is organizing a one-act play competition, in the month of June, in the school auditorium. You have decided to invite noted stage artiste, Saranya Marar to grace the occasion and be the chief Guest. Write a formal invitation(letter) to her in 50 words. You are Kavita/Kanav, the Cultural Secretary of your School. (3)

Q3. Watch the movie ‘The Invisible Man’ and write a review in 200 words. Include a description of the main characters, plot, theme, and your learning experience.

(5)

Q4. Read the extracts given below and answer the questions that follow.

(1x6=6)

I. “I know nothing except bangles. All I have done is to make a house for the family to live in”.

- a) Who is the speaker here?
- b) What does he mean by ‘I know nothing except bangle’?
- c) What does he consider it as his greatest accomplishment?

II.but all I said was, see you soon,

Amma,

all I did was smile and smile and

Smile.....

- a) What does the repeated use of the word ‘smile’ mean?
- b) The poet’s repeated smile seems to be out of place in a way. In which way is it appropriate?
- c) Why did the poet not share her concerns and worries with her mother, at parting time?

Q5. Answer the following questions in 30-40 words each.

(2x3=6)

- a) What does the phrase ‘familiar ache’ mean?
- b) How does M. Hamel pay tribute to the French language?
- c) Franz thinks, “will they make them sing in German, even the pigeons?” What could this mean?

Subject: Physics

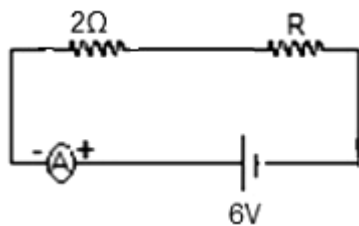
Objectives:

- Revision of concepts
- Application of the concepts to real life situations.
- Skills to carry out research work and develop scientific aptitude.

Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question

Q1. If the ammeter in the given circuit shown in the diagram reads 2A, the resistance R is (1)

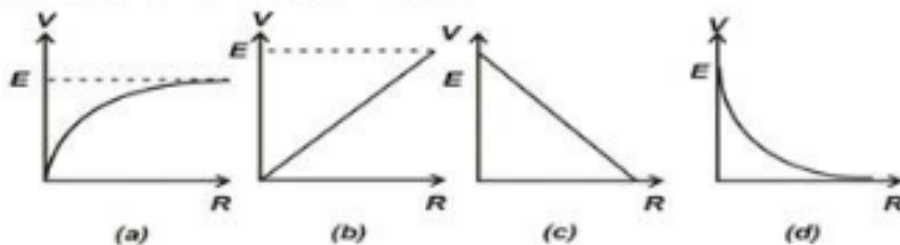


- (a) 1Ω (b) 2Ω (c) 3Ω (d) 4Ω

Q2. The heat produced by 100W heater in 2 minutes is equal (1)

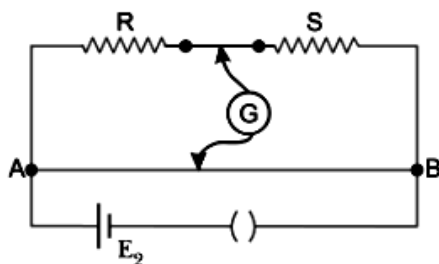
- a) 10.5kJ (b) 16.3kJ (c) 12.0kJ (d) 14.2kJ

Q3. A cell of emf E and internal resistance r is connected across an external resistor R . The graph showing the variation of P.D. across R versus R . (1)



Q4. Derive the expression for drift velocity of free electron in terms of relaxation time and electric field applied across a conductor. (2)

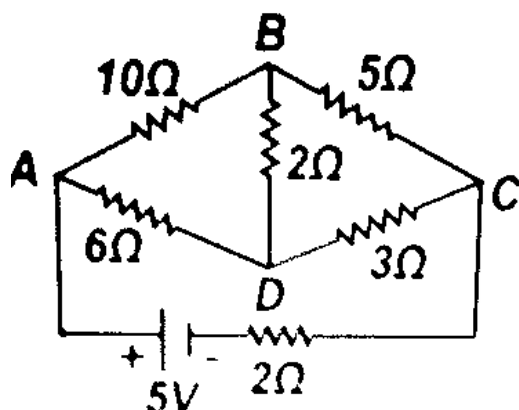
Q5. In a meter bridge shown in the figure, the balance point is found to be 40cm from end A. If a resistance of 10Ω is connected in series with R , balance point is obtained 60cm from A. Calculate the values of R and S . (2)



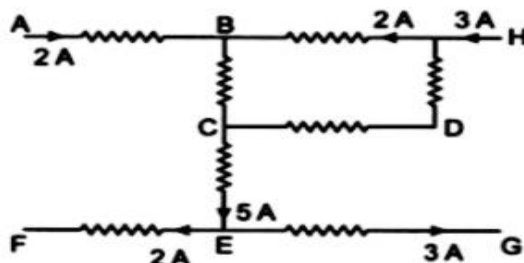
Q6. State Kirchhoff's rules for electric circuits. On which conservation laws are these rules based on? (2)

Q7. (i) A steady current flow in a metallic conductor of the non-uniform cross-section. Which of these quantities are constant along the conductor: current, current density, electric field, drift speed?
 (ii) Draw the circuit arrangement for a Wheatstone bridge. Use Kirchhoff's rules to obtain the balance condition for the bridge. (2+1=3)

Q8. Determine the electric current through branch BD of the electric network: (3)

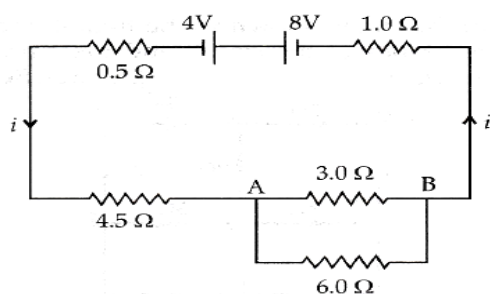


Q9. (i) What is the effect of heating of a conductor on the drift velocity of free electrons in it? (1+2+2=5)
 (ii) In the circuit diagram, calculate the electric current through branch BC:



(iii) Six lead-acid type of secondary cells each of emf 2.0 V and internal resistance 0.015Ω are joined in series to provide a supply to a resistance of 8.5Ω . What is the current drawn from the supply and its terminal voltage?

Q10. In the circuit shown, find the current through all the resistors using Kirchhoff's laws. (5)



Subject – Chemistry

Q.1 Give reasons :

- (i) C – Cl bond length in chlorobenzene is shorter than C – Cl bond length in $\text{CH}_3 - \text{Cl}$.
- (ii) The dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.
- (iii) $\text{S}_{\text{N}}1$ reactions are accompanied by racemization in optically active alkyl halides. (3)

Q.2 How do you convert :

- (i) Chlorobenzene to biphenyl
- (ii) Propene to 1-iodopropane
- (iii) 2-bromobutane to but-2-ene. (3)

Q.3 How do you convert the following :

- (i) ethyl chloride is treated with NaI in the presence of acetone,
- (ii) chlorobenzene is treated with Na metal in the presence of dry ether,
- (iii) methyl chloride is treated with KNO_2 ?

Write chemical equation in support of your answer. (3)

Q.4 Write the structures of the major product in each of the following reactions :

- (i) $\text{CH}_3 - \text{CH} = \text{CH}_2$ ----(i) reduction B_2H_6 (ii) $\text{H}_2\text{O}_2/\text{OH}^-$ ----- \rightarrow
- (ii) $\text{CH}_3 - \text{CH}_2 - \text{CHBr} - \text{CH}_3 + \text{KOH(aq)}$ ----- \rightarrow
- (iii) $\text{C}_6\text{H}_5 - \text{Br} + \text{Mg}$ ----dry ether---- \rightarrow (3)

Q.5 Give reasons :

- (a) n-Butyl bromide has higher boiling point than t-butyl bromide.
- (b) Racemic mixture is optically inactive.
- (c) The presence of nitro group ($-\text{NO}_2$) at o/p positions increases the reactivity of haloarenes towards nucleophilic substitution reactions. (3)

Q.6 How do you convert the following :

- (i) Prop-1-ene to 1-fluoropropane
- (ii) Chlorobenzene to 2-chlorotoluene
- (iii) Ethanol to propanenitrile (3)

Q.7 Write the main products when

- (i) n-butyl chloride is treated with alcoholic KOH.
- (ii) 2,4,6-trinitrobenzene is subjected to hydrolysis.
- (iii) methyl chloride is treated with AgCN. (3)

Q.8 (a) Why are alkyl halides insoluble in water ?

(b) Why is Butan-1-ol optically inactive but Butan-2-ol is optically active ?

(c) Although chlorine is an electron withdrawing group, yet it is ortho-, para-directing in electrophilic aromatic substitution reaction. Why ? (3)

Q.9 Account for the following :

- (i) Ethyl iodide undergoes S_N2 reaction faster than ethyl bromide.
- (ii) (\pm) 2-Butanol is optically inactive.
- (iii) C – X bond length in halobenzene is smaller than C – X bond length in $CH_3 - X$. (3)

Q.10 (a) What are ambident nucleophiles ? Explain giving an example.

(b) What is meant by chirality of a compound ? Give an example.

(c) Write a chemical test to distinguish between :

- (i) Chlorobenzene and Benzyl chloride.
- (ii) Chloroform and carbon tetrachloride.

Subject – Biology

Answer the following questions:

- Q1. Define reproduction (1)
- Q2. Why is there a large diversity in the living world? (1)
- Q3. Define encystation and sporulation. Give an example each. (2)
- Q4. Show binary fission in amoeba with the help of series of labelled diagrams. (2)
- Q5. How does reproduction take place in Hydra? Explain with the help of labelled diagrams. (2)
- Q6. Name six fruits which you have consumed during the holidays (Remember chilli is a fruit too). (2)
- Mention the edible parts.
- Q7. Identify the following parts of a flowering plant and write whether it is haploid(n) or diploid(2n) (3)
- Q8. Higher animals have resorted to sexual reproduction inspite of its complexity. Explain. (3)
- Q9. How does cell division take place in gamete formation? (4)
- Q10. With the help of examples show the diversity in sexual reproduction. Draw diagrams to (5)
- support you answer.

Subject – Mathematics

Q1. If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$, show that $A^2 - 5A + 7I_2 = O$

Q2. If $A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$, $f(x) = x^2 - 2x - 3$, show that $f(A) = O$

Q3. If $A = \begin{bmatrix} -1 \\ 2 \\ 3 \end{bmatrix}$ and $B = \begin{bmatrix} -2 & -1 & -4 \end{bmatrix}$, verify that $(AB)^T = B^T A^T$.

Q4. If $A = \begin{bmatrix} \cos \alpha & \sin \alpha \\ -\sin \alpha & \cos \alpha \end{bmatrix}$, then verify that $A^T A = I_2$.

Q5. Express the matrix $A = \begin{bmatrix} 3 & 2 & 3 \\ 4 & 5 & 3 \\ 2 & 4 & 5 \end{bmatrix}$ as the sum of a symmetric and a skew-symmetric matrix.

CASE STUDY:

A manufacturer produces three stationery products Pencil, Eraser and Sharpener which he sells in two markets. Annual sales are indicated below:



Market	Products (in numbers)		
	<u>Pencil</u>	<u>Eraser</u>	<u>Sharpener</u>
A	10,000	2000	18,000
B	6000	20,000	8000

If the unit Sale price of Pencil, Eraser and Sharpener are Rs. 2.50, Rs. 1.50 and Rs. 1.00 respectively, and unit cost of the above three commodities are Rs. 2.00, Rs. 1.00 and Rs. 0.50 respectively, then –

Based on the above information answer the following:

1. Total revenue of market A
 - a. Rs. 64,000
 - b. Rs. 60,400
 - c. Rs. 46,000
 - d. Rs. 40600
2. Total revenue of market B
 - a. Rs. 35,000
 - b. Rs. 53,000
 - c. Rs. 50,300
 - d. Rs. 30,500
3. Cost incurred in market A
 - a. Rs. 13,000
 - b. Rs.30,100
 - c. Rs. 10,300
 - d. Rs. 31,000
4. Profit in market A and B respectively are
 - a. (Rs. 15,000, Rs. 17,000)
 - b. (Rs. 17,000, Rs. 15,000)
 - c. (Rs. 51,000, Rs. 71,000)
 - d. (Rs. 10,000, Rs. 20,000)
5. Gross profit in both market
 - a. Rs.23,000
 - b. Rs. 20,300
 - c. Rs. 32,000
 - d. Rs. 30,200

Subject – Economics

- Q1. Explain the role of the Suez Canal in intensifying British control over India's foreign trade. (2)
- Q2. What happens in the first stage of demographic transition? (2)
- Q3. Why are death rates so high in the first stage of demographic transition? (2)
- Q4. State in brief, the demographic profile of India under British rule. (2)
- Q5. "The real motive behind infrastructural development in India was not to provide basic amenities to the people but to subserve various colonial interests. Do you agree? (3)
Give reasons.
- Q6. How can you say that there were growing regional variations in the occupational structure of India during British rule? (3)
- Q7. Describe the positive impact of the British rule on Indian economy. (3)
- Q8. Briefly state the position of agriculture, industry and foreign trade on the eve of independence. (3)
- Q9. State the features of Indian economy at the time of independence. (5)
- Q10. How did the British exploit Indian agriculture sector? (5)

Guidelines for Project Work in Economics (Class XII)

The objectives of the project work are to enable learners to: • probe deeper into theoretical concepts learnt in classes XI and XII • analyse and evaluate real world economic scenarios using theoretical constructs and arguments • demonstrate the learning of economic theory • follow up aspects of economics in which learners have interest • develop the communication skills to argue logically The expectations of the project work are that: • learners will complete only ONE project in each academic session • project should be of 3,500-4,000 words (excluding diagrams & graphs), preferably hand-written • it will be an independent, self-directed piece of study

Scope of the project: Learners may work upon the following lines as a suggested flow chart: Choose a title/topic

Collection of the research material/data

Organization of material/data

Present material/data

Analysing the material/data for conclusion

Draw the relevant conclusion

Presentation of the Project Work 11 Expected Checklist:

• Introduction of topic/title • Identifying the causes, consequences and/or remedies • Various stakeholders and effect on each of them • Advantages and disadvantages of situations or issues identified • Short-term and long-term implications of economic strategies suggested in the course of research • Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file • Presentation and writing that is succinct and coherent in project file • Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

Suggestive List of Projects: • Micro and Small Scale Industries • Food Supply Channel in India • Contemporary Employment situation in India • Disinvestment policy of the government • Goods and Services Tax Act and its Impact on GDP • Health Expenditure (of any state) • Human Development Index • Inclusive Growth Strategy • Self-help group • Trends in Credit availability in India • Monetary policy committee and its functions • Role of RBI in Control of Credit • Government Budget & its Components • Trends in budgetary condition of India • Exchange Rate determination – Methods and Techniques • Currency War – reasons and repercussions • Livestock – Backbone of Rural India • Alternate fuel – types and importance • Sarwa Shiksha Abhiyan – Cost Ratio Benefits • Golden Quadrilateral- Cost ratio benefit • Minimum Support Prices • Relation between Stock Price Index and Economic Health of Nation • Waste Management in India – Need of the hour • Minimum Wage Rate – approach and Application • Digital India- Step towards the future • Rain Water Harvesting – a solution to water crises • Vertical Farming – an alternate way • Silk Route- Revival of the past • Make in India – The way ahead • Bumper Production- Boon or Bane for the farmer • Rise of Concrete Jungle- Trend Analysis • Organic Farming – Back to the Nature • Any other newspaper article and its evaluation on basis of economic principles • Any other topic

Subject – Computer Science

Q1 Write SQL command to create the following table STUDENT with constraints (2)

Field Name	Type	Width	Constraints
Rollno	int		Primary key
Stud_Name	varchar	25	
DOB	date		
Subject	varchar	24	
Marks	int		

Q2 Consider the following table: Movierental and write SQL statement for (a) and (b): (2)

reference_ number	transaction_ date	return_date	membership_ number	movie_id	movie_ returned
11	20-06-2012	NULL	1	1	0
12	22-06-2012	25-06-2012	1	2	0
13	22-06-2012	25-06-2012	3	2	0
14	21-06-2012	24-06-2012	2	2	0
15	23-06-2012	NULL	3	3	0

a) to get the number of times that the movie with id 2 has been rented out(omit duplicates)

b) to display the latest movie rented.

Q3 Describe the following clauses in SQL: GROUP BY and HAVING. (2+2)

Q4 Write a short note on INSERT Statement. (4)

Q5 Explain the SQL commands based on the following: (2x3=6)

Q6 Based on the following tables PRODUCT and CLIENT, answer the following queries: (1x6=6)

PRODUCT:

P_ID	ProductName	Manufacturer	Price	Discount
TP01	Talcom Powder	LAK	40	
FW05	Face Wash	ABC	45	5
BS01	Bath Soap	ABC	55	
SH06	Shampoo	XYZ	120	10
FW12	Face Wash	XYZ	95	

CLIENT:

C_ID	ClientName	City	P_ID
01	Cosmetic Shop	Delhi	TP01
02	Total Health	Mumbai	FW05
03	Live Life	Delhi	BS01
04	Pretty Woman	Delhi	SH06
05	Dreams	Delhi	FW12

- i) to display ProductName and Price for all products whose Price is in the range 50 to 150.
- ii) to display details of product whose manufacturer is either XYZ or ABC
- iii) to display ProductName, Manufacturer and Price for all products that are not given any discount.
- iv) to display ClientName, City, P_ID and ProductName for all clients whose city is Delhi.
- v) Which column is used as Foreign Key and name the table where it has been used as foreign key?

Q7 a) Consider the following Table: CUSTOMER

(1x6=6)

customer_id	cust_name	city	grade	salesman_id
3002	Nick Rimando	New York	100	5001
3007	Brad Davis	New York	200	5001
3005	Graham Zusi	California	200	5002
3008	Julian Green	London	300	5002
3004	Fabian Johnson	Paris	300	5006
3009	Geoff Cameron	Berlin	100	5003
3003	Jozv Altidor	Moscow	200	5007

Write the SQL statements for the following conditions (a) to (f):

- a) to display all customers in New York who have a grade value above 100.
- b) to display those customers who are neither belongs to the city London nor grade value is more than 200
- c) to sort out those customers with all information whose ID value is within any of 3007, 3008 and 3009.
- d) to find those customers with all other information and name started with any letter within 'A' and 'K'
- e) to display the grade with the percent sign (%) with salesman ID and city columns for all the customers
- f) fetching the “cust_name” from customer table in upper case.

Subject – Informatics Practices

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a) to get the number of times that the movie with id 2 has been rented out(omit duplicates)

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- e) to display the grade with the percent sign (%) with salesman ID and city columns for all the customers
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Subject – Psychology

- Q1. Define self. (1)
- Q2. In value assessment we try to determine the _____ values of a person. (1)
- Q3. Define personality. (2)
- Q4. People who are confident, can solve problems, confront the things that frighten them and nurture themselves are all qualities of which Behavioural aspect of self. Write a note on it. (2)
- Q5. Rita is learning music. Many times, she has to miss her favourite serial as she has to go for music classes. Also, she wakes up early to practice despite her love her sleep. Which concept from the chapter self and personality can you link to this situation? (3)
- Q6. Which concept of self is based on Bandura's social learning theory? Write a note on it. (3)
- Q7. If a psychologist is evaluating you by asking your response to ink blots, which form of assessment is the psychologist using? List any two features of this form of assessment. (4)
- Q8. Is there difference between self-actualization and a fully functioning individual? Support your answer with the help of examples. (4)
- Q9. Distinguish between type and trait approach of personality. Give suitable examples. (5)
- Q10. What is meant by delay in gratification? Discuss the technique used for self-control. (5)

Subject – Physical Education

1. The percentage of water in normal human body is (1)
(a) 40–50 (b) 60–70
(c) 70–80 (d) 80–90
2. Which nutrient provides more than double energy provided by carbohydrate in human body? (1)
(a) Vitamin (b) Minerals
(c) Fats (d) Starch
3. Which nutrient helps our body to fight against infections? (1)
(a) Carbohydrate (b) Protein
(c) Starch (d) Fats
4. is essential for the formation of haemoglobin in blood. (1)
(a) Sodium (b) Calcium
(c) Iron (d) Phosphorous
5. What do you mean by specific sports programmes? Explain about health runs and run for unity in detail. (5)
6. Explain the various objective of Extramurals.. (5)
7. While specifying all calculations, prepare a 'knock-out fixture' for 21 teams. (5)
8. Draw a knock-out fixture of 21 teams mentioning all the steps involved. (5)
9. Being the captain of the school, prepare five important committees with their responsibilities conduct one day run for health race. (5)
10. What is the role of various elements of diet on performance of an athlete? (5)