CLASS XII
HOLIDAY HOMEWORK
ACADEMIC SESSION 2023-2024

PHYSICS

1. Home assignment

Solutions
Exercise questions:-
2.4,2.6,2.7,2.8,2.9,2.12,2.13,2.14,2.15,2.16,2.17,2.19,2.20,2.21,2.22,2.30,2.34,2.35,2.36,2.38,2.40.
Submission date:-24/04/23
Do in home work note book

2. Investigatory project

CHEMISTRY

1. Exercise questions from solutions
2. Investigatory project

MATHS

CASE STUDY 1:

A general election of Lok Sabha is a gigantic exercise. About 911 million people wereeligible to vote and voter turnout was about 67%, the highest ever

ONE – NATION ONE – ELECTION FESTIVAL OF DEMOCRACY GENERAL ELECTION – 2019

Let I be the set of all citizens of India who were eligible to exercise their voting right ingeneral election held in 2019. A relation 'R' is defined on I as follows:

R = {$(V1, V2) : V1, V2 \in I$ and both use their voting right in general election – 2019}

1. Two neighbors X and Y∈ I. X exercised his voting right while Y did not cast her votein general election – 2019. Which of the following is true?

a. (X,Y) ∈R

b. (Y,X) ∈R

c. (X,X) ∉R

d. (X,Y) ∉R

2. Mr.'X' and his wife 'W'both exercised their voting right in general election -2019, Which of the following is true?

a. both (X,W) and (W,X) ∈ R

b. (X,W) ∈ R but (W,X) ∉ R

c. both (X,W) and (W,X) ∉ R

d. (W,X) ∈ R but (X,W) ∉ R

3. Three friends F1, F2 and F3 exercised their voting right in general election-2019, thenwhich of the following is true?

a. (F1,F2) ∈R, (F2,F3) ∈ R and (F1,F3) ∈ R

b. (F1,F2) ∈ R, (F2,F3) ∈ R and (F1,F3) ∉ R

c. (F1,F2) ∈ R, (F2,F2) ∈R but (F3,F3) ∉ R

d. (F1,F2) ∉ R, (F2,F3) ∉ R and (F1,F3) ∉ R

4..Mr. Shyam exercised his voting right in General Election – 2019, then Mr. Shyam isrelated to which of the following?

a. All those eligible voters who cast their votes

b. Family members of Mr.Shyam

c. All citizens of India

d. Eligible voters of India

CASE STUDY 2

Sherlin and Danju are playing Ludo at home during Covid-19. While rolling the dice, Sherlin's sister Raji observed and noted the possible outcomes of the throw every time belongs to set {1,2,3,4,5,6}. Let A be the set of players while B be the set of all possible outcomes.

A = {S, D}, B = {1,2,3,4,5,6}

2. Raji wants to know the number of functions from A to B. How many number of functions are possible?

a. 6^2

b. 2^6

c. 6!

d. 2^{12}

4. Raji wants to know the number of relations possible from A to B. How many numbers of relations are possible?

a. 6^2

b. 2^6

c. $6!$

d. 2^{12}

CASE STUDY 3:

An organization conducted bike race under 2 different categories-boys and girls. Totally there were 250 participants. Among all of them finally three from Category 1 and two from Category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college project.

Let B = {b1,b2,b3} G={g1,g2} where B represents the set of boys selected and G the set of girls who were selected for the final race.

Ravi decides to explore these sets for various types of relations and functions

1. Ravi wishes to form all the relations possible from B to G. How many such relations are possible?

a. 2^6

b. 2^5

c. 0

d. 2^3

2. Ravi wants to know among those relations, how many functions can be formed from B to G?

a. 2^2

b. 2^{12}

c. 3^2

d. 2^3

CASE STUDY 4:

Students of Grade 9, planned to plant saplings along straight lines, parallel to each other to one side of the playground ensuring that they had enough play area. Let us assume that they planted one of the rows of the saplings along the line $y = x - 4$. Let L be the set of all lines which are parallel on

the ground and R be a relation on L.

Answer the following using the above information.

1. Let relation R be defined by R = {($L1$, $L2$): $L1 \parallel L2$ where L1,L2 ∈ L} then justify the following as True or False .

a. $L1 \parallel L2$
b. $L1 \parallel L2 \rightarrow L2 \parallel L1$
c. $L1 \parallel L2$, $L2 \parallel L3 \rightarrow L1 \parallel L3$

2. Let $f: R \rightarrow R$ be defined by $(x) = x - 4$. Then the range of $f(x)$ is _____

a. R

b. Z

c. W

d. Q

3. Let R = {(L 1 , L 2) : L 1 is parallel to L 2 and L 1 : y = x – 4} then which of the following can be taken as L 2 ?

a. 2x-2y+5=0

b. 2x+y=5

c. 2x + 2y + 7 =0

d. x+y=7

CASE STUDY 5:

There are 3 families A, B and C. the number of men, women and children in these families are as under:

	Men	Women	Children
Family A	2	3	1
Family B	2	1	3
Family C	4	2	6

Daily expenses of men, women and children are Rs.200, Rs.150 and Rs.200 respectively. Only men and women earn and children do not. Calculate the daily expenses of each family by solving equations in three variables.

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CLASS XII MATHEMATICS PRACTICAL ACTIVITY (RECORD WORK)

(Reference   :
   https://ncert.nic.in/pdf/publication/sciencelaboratorymanuals/classXII/mathematics/lelm501.pdf

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Activity 1

OBJECTIVE : To verify that the relation R in the set L of all lines in a plane, defined by R = {(l, m) : l ⊥ m} is symmetric but neither reflexive nor transitive.

Activity 2
OBJECTIVE : To demonstrate a function which is not one-one but is onto.

Activity 3
OBJECTIVE : To draw the graph of $\sin^{-1} x$, using the graph of sin x and demonstrate the concept of mirror reflection (about the line y = x).

Activity 4
OBJECTIVE : To find analytically the limit of a function f (x) at x = c and also to check the continuity of the function at that point

Activity 5

OBJECTIVE : To understand the concepts of decreasing and increasing functions.

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ENGLISH

A. DEFINE AND EXPLAIN THE FOLLOWING FIGURES OF SPEECH WITH FIVE EXAMPLES EACH.

   1 SIMILIE
   2 METAPHOR
   3. PERSONIFICATION
   4 PUN
   5 ALLITERATION
   6 REFRAIN
  7 HYPERBOLE
   8 SYNECDOCHE
   9 OXYMORON

B. WRITE A LETTER TO THE EDITOR OF A NATIONAL DAILY REGARDING THE UNTIMELY SEASONS AND THE EFFECT OF CLIMATE CHANGE IN ABOUT 120 -150 WORDS.

COMPUTER SCIENCE HOLIDAY HOME WORK
CLASS 12 A

PYTHON REVISION TOUR I
1. TYPE A QUESTION 1 TO 20

2. TYPE B QUESTION 1 TO 5
3. TYPE C QUESTION 1 TO 11

PYTHON REVISION TOUR II
1. TYPE A QUESTIONS 1 TO 21
2. TYPE B QUESTIONS 1 TO 12
3. TYPE C QUESTIONS 1 TO 12

INFORMATICS PRACTICES HOLIDAY HOME WORK

1. What is a Series and how is it different from a 1-D array, a list and a dictionary?

2. What is a DataFrame and how is it different from a 2-D array?

3. How are DataFrames related to Series?

4. What do you understand by the size of (i) a Series, (ii) a DataFrame?

5. Create the following Series and do the specified operations:

    a) EngAlph, having 26 elements with the alphabets as values and default index values.

    b) Vowels, having 5 elements with index labels 'a', 'e', 'i', 'o' and 'u' and all the five values set to zero. Check if it is an empty series.

    c) Friends, from a dictionary having roll numbers of five of your friends as data and their first name as keys.

    d) MTseries, an empty Series. Check if it is an empty series.

    e) MonthDays, from a numpy array having the number of days in the 12 months of a year. The labels should be the month numbers from 1 to 12.

6. Using the Series created in Question 5, write commands for the following:

    a) Set all the values of Vowels to 10 and display the Series.

    b) Divide all values of Vowels by 2 and display the Series.

    c) Create another series Vowels1 having 5 elements with index labels 'a', 'e', 'i', 'o' and 'u' having values [2,5,6,3,8] respectively.

    d) Add Vowels and Vowels1 and assign the result to Vowels3.

    e) Subtract, Multiply and Divide Vowels by Vowels1.

    f) Alter the labels of Vowels1 to ['A', 'E', 'I', 'O', 'U'].

7. Using the Series created in Question 5, write commands for the following:

    a) Find the dimensions, size and values of the Series EngAlph, Vowels, Friends, MTseries, MonthDays.

    b) Rename the Series MTseries as SeriesEmpty.

    c) Name the index of the Series MonthDays as monthno and that of Series Friends as Fname.

d) Display the 3rd and 2nd value of the Series Friends, in that order.

e) Display the alphabets 'e' to 'p' from the Series EngAlph.

f) Display the first 10 values in the Series EngAlph.

g) Display the last 10 values in the Series EngAlph.

h) Display the MTseries.

8. Using the Series created in Question 5, write commands for the following:

a) Display the names of the months 3 through 7 from the Series MonthDays.

b) Display the Series MonthDays in reverse order.

9. Create the following DataFrame Sales containing year wise sales figures for five sales persons in INR. Use the years as column labels, and sales person names as row labels.

10. Use the DataFrame created in Question 9 above to do the following:
a) Display the row labels of Sales.
b) Display the column labels of Sales.
c) Display the data types of each column of Sales.
d) Display the dimensions, shape, size and values of Sales.
e) Display the last two rows of Sales.
f) Display the first two columns of Sales.
g) Create a dictionary using the following data. Use this dictionary to create a DataFrame Sales2.

	2018
Madhu	160000
Kusum	110000
Kinshuk	500000
Ankit	340000
Shruti	900000

h) Check if Sales2 is empty or it contains data.

BIOLOGY HOLIDAY HOMEWORK
- Complete the Homework questions given earlier.
- CBSE BOARD questions :
1. Describe the process of embryogenesis in angiosperm ?
2. Describe the structures of an ovule with the help of diagram ?
3. What is fertilization? Describe double fertilization and triple Fusion in angiosperm with the help of diagram ?
4. What is a fruit biologically ? How the fruits are classified. Explain the different types of fruits with an example ?
5. What is an endosperm ? How is it formed in angiosperms ?

- Prepare an investigatory project (5m)
- Write brief notes on the chapter 2 & 3 in classwork notebook.
- Submit all the Homework on the very first reopening day (21/06/23)
- **Sub: Accountancy**
- **Answer the following questions**
- Q1.Vinod and Mohan are partners.Vinod's capital is Rs1,00,000 and Mohan's capital is Rs60,000.Interest on capital @6%p.a.Vinod is to get salary of Rs3,000p.m.Net profit for the year is Rs80,000.Prepare P&L Appropriation A/c.
- Q2.Shiv,Mohan and Gopal are partners. Sharing profits and losses in the ratio of 2:2:1.Shiv is entitled to a commission of 10% on the net profit.Net profit for the year is Rs1,10,000.
- Q3.Moli and Bholi contribute Rs20,000 and rs10,000 towards capital.They decide to allow interest on capital @6%p.a.Their respective share of profits is 2:3 and the profit for the year is Rs1,500.Show the distribution of profits.
- (a) When there is no agreement except of interest on capital.&
- (b)When there is no agreement that the interest on capital is change.
- Q4. Sita and Geeta are partners in the firm. Sharing profits in the ratio of 3:2.They had given loan to the firm of Rs30,000 in their profits on 1/10/2021. The partnership deed is silent on interest on loan from partners. Compute interest payable by the firm to the partners.
- Q5.From the following balance sheet of long and short. Calculate interest on capital @8%p.a for the year ended 31/3/2022.
- Balance sheet as on 31/3/2022

Liabilities	Amount	Asset	Amount
Long's Capital A/C	1,20,000	Fixed assets	3,00,000
Short's Capital A/C	1,40,000	Other Assets	60,000
General reserve	1,00,000		
Total	3,60,000		3,60,000

- During the year Long withdrew Rs40,000 and Short withdrew Rs50,000.Profits for the year was Rs1,50,000.Out of which Rs1,00,000 was transferred to General reserve .
- Q6.A and B are Partners sharing profits equally. 'A' drew regularly Rs 4,000 in the beginning of every month for 6 month ended 30th September 2021.Calculate interest on drawing @5%p.a for a period of six months.
- Q7. A and B are Partners sharing profits equally. 'A' drew regularly Rs 4,000 in the end of every month for 6 month ended 30th September 2021.Calculate interest on drawing @5%p.a for a period of six months.
- Q8.Mention rights of partners?
- Q9.Explain clauses of partnership deed?
- Q10.Mention the Importance of Partnership Deed?
- **SUB: Business Studies**
- **Answer the following questions**
- Q1) Differentiate between being effective and being efficient?
- Q2) State various functions of management?
- Q3) Explain management is all pervasive?
  Q4) Explain why management as an art as well as science?
- Q5) Explain functions of management?
- Q6) Write a brief note on coordination-the essence of management?

- Q7) Briefly explain principles of scientific management of **"Taylor"**?

- Q8) What do you understand by "Management Principles"?

- Q9) What are "work study techniques"?

- Q10) What do you mean by differential piece wage system?

ECONOMICS HOLIDAY HOMEWORK

- Q1.Define barter system and write its drawbacks or inconveniences?
  Q2.Write types of money, sources of money, supply and demand for money (motive)?

- Q3.Explain functions of money?

- Q4.Define commercial bank and write its functions?

- Q5.Explain credit creation with example and write formula of money multiplier?

- Q6.Explain functions of central bank

- (a) Banker's Bank
  (b) Banker to the government
  (c) note issue authority
  Q7.Explain credit controller functions of central bank?

- Q8.Distinguish between central bank and commercial bank?

- Q9. Define government budget and explain objectives of government budget?

- (a)Reallocation of resources

- (b)Redistribution of resources
  (c) Stabilization of economic activities

- Q10.Write components of budget?
  Q11.Distinguish between revenue receipts , capital receipts , revenue expenditure and capital expenditure?

- Q12.Explain revenue deficit, fiscal deficit ,primary deficit and its implications.

- Q13. Write different types of budget?

- Q14.Define tax,fees,escheats,forfeitures?

- Q15.Define direct tax, indirect tax, disinvestment, borrowing?

- Q16.Explain fixed exchange rate with its merits and demerits?

- Q17.Explain flexible exchange rate with its merits and demerits?

- Q18.What is managed floating ,devaluation and depreciation?

- Q19.Expain balance of payment with its components?

- Q20.Distinguish between balance of trade and balance of payment,current account and capital account?

History (027)

SUMMER VACATION HW DATE OF SUBMISSION- 21.06.2023

Section- A   1X10=10 M

Q1. Identify the best reason for considering King Ashoka as 'Devanampiya' or'Piyadassi' by his subjects.

(A) Asoka commissioned the edicts himself. (B) He adopted the title'Devaputra'.

(C) Epigraphists have concluded him as Devanampiya. (D)He worked for the wellbeing of societythrough Dhamma.

Q2. The Prayaga Prashasti was composed in Sanskrit by Harishena. Harishena wasthe court poet of which of the following kings? (A) King Samudragupta (B) King Ashoka

(C) King Chandra Gupta Maurya   (D) King Kanishka

Q3. The........................describes the plight of the subjects of a wicked king; these included elderly women and men, cultivators, herders, village boys and evenanimals.

(A) Gandatindu Jataka (B) Panchtantara (C) Jataka (D) VayushastraQ4 Sangam is a literature of.. language.

(A) Tamil(B) Malayalam(C) Sanskrit(D) Marathi

Q5 Consider the following statements about Mahabharata:

(1) Historians have set aside the traditions as described in Mahabharata.

(2) It has around 10,000 verses.

(3) The main theme of Mahabharata is about the warring princes across India.

(4) Its critical edition was started by K. R. Mangalam in 1919 CE.State which of the above statements are correct?

(A) Only (1)   (B) (1) and (2) (C) (1), (2)   (4) (D) None of these

Q6. Which among the following was a strategy adopted by the Brahmanas toenforce the varna order?

(A) Assert that varna order was a human creation.

(B) Advised kings to punish those who violated these norms.

(C) Persuaded people that their status was determined by birth.

(D) Persuaded people that their status determined by occupations they practised.Q7 Which of the following pairs is not correctly matched?

(A) Kouravas–Son of Gandhari(B) Ekalavya–Chandala
(C) Pandavas–Sons of Pandu(D) Suvarnakaras–Goldsmith

In the following questions, a statement of Assertion (A) is followed by a statementof Reason (R). Mark the correct choice as.

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

(B) Both A and R are true but R is NOT the correct explanation of A.

(C) A is true but R is false.   (D) A is false and R is true.

Q8. Assertion (A): According to the Shastras, only Kshatriyas could be kings.However, several important ruling lineages probably had different origins.

Reason (R): The Shungas and Kanvas, Mauryas were Brahmanas.

Q9 Assertion (A): Votive inscriptions record gifts made to religious institutions.
Reason (R): On the pedestal is a Prakrit inscription, mentioning that a woman named Nagapiya, the wife of a goldsmith named Dharmaka,installed this image ina shrine.

Q10 Observe the picture and answer the following Q.

1. What is the name of the sculptor?

The lion, the bull and the horse (B) The lion capital (C) The Asoka chakra (D)The das capital

Q11 Critically examine the limitations of the inscriptional evidences inunderstanding political and economic history of India. 8M

Q12 The Sudarshana lake was an artificial reservoir. We know about it from a rock inscription (2nd century CE) in Sanskrit, composed to record the achievements of the Shaka ruler Rudradaman.The inscription mentions that the lake, with embankments and water channels, was built by a local governor duringthe rule of the Maury as. However, a terrible storm broke the embankments and water gushed out of the lake. Rudradaman, who was then ruling in the area, claimed to have got the lake repaired using his own resources, without imposing any tax on his subjects.

Another inscription on the same rock (c 5th century) mentions how one of therulers of the Gupta dynasty got the lake repaired once again.

1. How do we get to know about the Sudarshana lake? 1m
2. Why this lake required the repair? 1m
3. Explain why did rulers make arrangements for irrigation? 2m

Q13 PROJECT- choose any one project and read guidelines

विषय - हिंदी

प्रश्न1-दिए गए चार अप्रत्याशित विषयों में से किन्हीं दो पर लगभग 120 शब्दों में रचनात्मक लेख लिखिए -
(क) लोकतंत्र में मीडिया की भूमिका
(ख) आजादी का अमृत महोत्सव: स्वर्णिम 75 साल
(ग) काश! मैं उड़ पता
(घ) विज्ञापनों का जीवन पर प्रभाव
प्रश्न 2- निम्नलिखित प्रश्नों का उत्तर दीजिए
(क) पत्रकारिता , समाचार और संपादकीय में अंतर बताइए ।
(ख) विशेष लेखन पर टिप्पणी लिखिए ।
प्रश्न 3- समाचार लेखन की उल्टा पिरामिड शैली का अभिप्राय स्पष्ट करते हुए उल्टा पिरामिड शैली में समाचार लेखन की प्रक्रिया पर प्रकाश डालिए ।
प्रश्न4- ' सिल्वर वेडिंग' कहानी को पढ़कर यशोधर बाबू के व्यक्तित्व की प्रमुख विशेषताओं पर प्रकाश डालिए ।
प्रश्न5- झारखंड राज्य के संगीत ,आदिवासी लोक कलाओं ,क्षेत्रीय वेशभूषा ,भौगोलिक विशेषताओं ,धार्मिक स्थलों का सचित्र वर्णन करते हुए कला आधारित परियोजना कार्य (scrap book) बनाइए ।

FUNDAMENTALS OF HUMAN
GEOGRAPHY

1 .Answer the following questions

1.1 explain naturalization of humans

1.2 Define human geography

1.3 Difference between birth rate and death rate

1.4 What are the components of population change

1.5 What are the three basic areas of human development

1.6 How are countries classified on the basis of human development index

1.7 Difference between nomadic herding and commercial livestock rearing

1.8 Future of shifting cultivation is bleak .discuss

1.9 Discuss the factors influencing the distribution and density of population in the world

1.10   Differentiate between nomadic herding and commercial livestock rearing

2   .locate the following

Chapter 2 the world population distribution density and growth

2.1 PG 16 map skill

questions Chapter –

Primary activities

2.2 PG 32 fig. 5.2 areas of subsistence gathering

2.3 PG 34 fig.5.4 areas of nomadic herding

2.4 PG 35 fig 5.6 areas of commercial livestock rearing

2.5 PG 35 fig 5. 7 areas of primitive subsistence agriculture

2.6 PG 36 fig 5.8 areas of intensive subsistence farming

2.7 PG 38 fig. 5.12 areas of extensive commercial grain farming

2.8 PG 39 fig.5.14 areas of mixed farming

2.9 PG 40 fig 5.16 areas of dairy farming

3. Complete chapter 1 -data its sources and compilation of geography practical book in the record book