

KENDRIYA VIDYALAYA, PORBANDAR

HOLIDAY HOME WORK 2023

CLASS 12 A

SUBJECT : MATHS

Que 1. Integration of given below.

1. $\frac{1}{x+x\log x}$

2. $\frac{1}{x-\sqrt{x}}$

3. $(x^3-1)^{\frac{1}{2}} x^5$

4. $\frac{e^{2x}-1}{e^{2x}+1}$

5. $\frac{1}{1+\cot x}$

6. $\frac{(x+1)(x+\log x)^2}{x}$

7. $\cos 2x \cos 4x \cos 6x$

8. $\frac{\cos 2x - \cos 2\alpha}{\cos x - \cos \alpha}$

9. $\frac{1}{\sin x \cos^3 x}$

10. $\frac{1}{\sqrt{7-6x-x^2}}$

11. $\frac{1}{\sqrt{(x-a)(x-b)}}$

Que.2. $3x-y-2z=2$; $2y-z=-1$; $3x-5y=3$ solve by matrix method.

Que.3. A square piece of tin of side 18 cm is to be made into a box without top, by cutting a square from each corner and folding up the flaps to form the box. What should be the side of the square to be cut off so that the volume of the box is the maximum possible?

Que.4. Prove that the volume of the largest cone that can be inscribed in a sphere of radius R is $\frac{8}{27}$ of the volume of the sphere.

CLASS 12 SUB: ENGLISH

AUTUMN BREAK HOMEWORK SESSION 2023-24

Q-1 You are Rahul /Rashmi. As President of the Literary Club of your school; you have organised an inter-school debate competition on the occasion of the Silver Jubilee celebrations of your school. Write a notice in about 50 words, informing the students of your school about the competition.

Q-2 Your sister Nivedita is going to marry Akhilesh (S/o Mr & Mrs SM. Joshi, Nainital) Your father Mr K.S. Bhardwaj has planned to hold the wedding at Hotel Kunal, New Delhi on 25 May 20XX at 8 p.m. Write a formal invitation on behalf of Mr & Mrs K.S. Bhardwaj inviting guests to the auspicious occasion. Give other details. Do not exceed 50 words.

Q-3 You are Aman/Aditi studying in Bharat School, Lucknow. The road leading to your school is very congested and full of potholes. Students and parents are often caught in a traffic jam. In spite of several representations, the government has not done anything to improve the condition of the road. Write a letter to the Editor of The Times of India, drawing the attention of the government to this problem.

Q-4 Draft an application for the post of an accountant in Pioneers (Pvt.) Ltd. Co. Hyderabad in response to their advertisement that appeared in The Times of India dated 1st August, 20XX. Prepare a biodata to be enclosed. You are Nipun/Aparna.

Q-5 Write an article in 120-150 words on ‘The Role of Youth in National Development’ to be published in your school magazine. You are Mumtaz/Mohd. Azam of XII Std., Bharathiya Vidya Bhavan, Delhi.

Q-6 You had attended a workshop on personality development for students. Many eminent personalities had been present. Write a report in 125-150 words on how the workshop proved to be beneficial. You are Rajesh/Rajshree.

1. Solve all the intext questions of haloalkanes and haloarenes and also solve intext questions of alcohols phenols and ethers till 7.3

2. How the following conversions can be carried out?

- (i) Propene to propan-1-ol
- (ii) Ethanol to but-1-yne
- (iv) Toluene to benzyl alcohol
- (v) Benzene to 4-bromonitrobenzene
- (vi) Benzyl alcohol to 2-phenylethanoic acid

- (vii) Ethanol to propanenitrile
- (viii) Aniline to chlorobenzene
- (ix) 2-Chlorobutane to 3, 4-dimethylhexane
- (x) 2-Methyl-1-propene to 2-chloro-2-methylpropane

- (xi) Ethyl chloride to propanoic acid
- (xii) But-1-ene to n-butyliodide

- (xiii) 2-Chloropropane to 1-propanol
- (xiv) Isopropyl alcohol to iodoform
- (xv) Chlorobenzene to p-nitrophenol
- (xvi) 2-Bromopropane to 1-bromopropane
- (xvii) Chloroethane to butane
- (xviii) Benzene to diphenyl
- (xix) tert-Butyl bromide to isobutyl bromide
- (xx) Aniline to phenylisocyanide

3. Discuss any 2 methods of preparation of alcohols.

KENDRIYA VIDYALAYA Porbandar
Class XII (CS) (Session 2023-24)
Subject Name with code: (083) Computer Science

Details of Practical Examination

Maximum Marks: 30

Sno	Area	Marks
1	Lab Test: 1. Python program (60% logic + 20% documentation + 20% code quality) 2. SQL queries (4 queries bases on one or two tables)	8 4
2	Report file: Minimum 15 Python programs. SQL Queries – Minimum 5 sets using one table / two tables. Minimum 4 programs based on Python - SQL connectivity	7
3	Project (using concepts learnt in Classes 11 and 12)	8
4	Viva voce	3
	TOTAL	30 M

Order of the points required in practical file:

1. AIM : means the problem which you are going to solve
2. CODING : actual code in Python (Handwritten code)
3. OUTPUT : output of the program on sample data (Handwritten or screenshot)
4. VARIABLE AND FUNCTION USED : list of variables and function used in the program

VARIABLE AND FUNCTION USED

Sno	Variable / Function Name	Datatype	Purpose

Practical Program List (Use functions in your code)

1. WAP to show functionality of a basic calculator using functions.
2. Write a function in python which accept a number from user to return True, if the number is a prime number else return False. Use this function to print all prime numbers from 1 to 100.
3. Write a function in python which accept a list of marks of students and return the minimum mark, maximum mark and the average marks. Use the same function to test.
4. WAP to read a text file “myfile.txt” line by line and display each word separated by a #.
5. WAP to read a text file “myfile.txt” and display the number of vowels/ consonants/ uppercase/ lowercase characters in the file.
6. Remove all the lines that contain the character `a` in a file and write it to another file.

7. Write a program to create a text file and print the lines starting with 'T' or 'P'. (Both uppercase and lowercase).
8. Read a text file to print the frequency of the word 'He' and 'She' found in the file.
9. Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
10. Create a binary file with roll number, name and marks. Input a roll number and update the marks.
11. Read a CSV file from hard disc and print all the details on the screen.
12. Read a CSV file (containing item no, name, rate, QOH) from hard disc and print all the items whose rate is between Rs 500 and Rs 1000.
13. Create a CSV file by entering user-id and password, read and search the password for given userid.
14. Write a random number generator that generates random numbers between 1 and 6 (**simulates** a dice). Throw the two dices for 10 times and print their total.
15. WAP in Python to demonstrate linear search.
16. Write a Python program to implement a stack using a list data-structure.
17. WAP to pass an integer list as stack to a function and push only those elements in the stack which are divisible by 7.

Database Management

1. Queries using Create database, Show databases, Use, Create table, Show Tables, Describe, Rename, Alter, Select, From, Where, Insert, Update commands
2. Queries using DISTINCT, BETWEEN, IN, LIKE, IS NULL, ORDER BY, GROUP BY, HAVING
3. Queries for Aggregate functions- SUM(), AVG(), MIN(), MAX(), COUNT()
4. WAP to connect Python with MySQL using database connectivity and perform the following operation on data in database: Create a table in database
5. WAP to connect Python with MySQL using database connectivity and perform the following operation on data in database: Insert record in the table
6. WAP to connect Python with MySQL using database connectivity and perform the following operation on data in database: Fetch records from the table using fetchone(), fetchall() and fetchmany().
7. WAP to connect Python with MySQL using database connectivity and perform the following operation on data in database: Update record in the table
8. WAP to connect Python with MySQL using database connectivity and perform the following operation on data in database: Delete record from the table

The Computer Science (Python file handling / Python-MySQL) Project Report must contain following and in the same order as mentioned below

Cover Page Project

Certificate

Acknowledgment

Overview of Python and File Handling /

MySQL Need for the

Project/Synopses/Summary

Requirements (Hardware & Software) along with instructions regarding how to install the project and use it are to be given. It should be a sort of USER MANUAL

Database and its tables with table-descriptions (Datatype/ Keys/ Defaults etc)

Library/Module Files (used in the Project along with the functions each file is supporting in the project.)

Functions (Description of user defined functions and their purpose) Source Code (listing of all the programs prepared as

part of project.) Output (Dumps of all the output screens)

Shortcomings/ Limitations

Reference (Bibliography/ Books/ Websites)

Note:

- 1. Index to be placed after Acknowledgment in the report but NOT to be mentioned in the index.**
- 2. Running project Source Code to be submitted in a CD/PD along with relevant data files**
- 3. Project CD/PD/Cover Page should be properly LABELED with**
 - 1. Class: XII**
 - 2. Section: A**
 - 3. Year: 2023-24**
 - 4. Class Roll Number:**
 - 5. BOARD ROLL No. (To be mentioned later)**
 - 6. Project TITLE: Train Searching App (Example)**
 - 7. Main Program name: (.PY File name)**

Basic coding required:

- * Data in MySQL table or Python File Handling**
- * Data in 1/2/3 tables and concept of joining must be implemented**
- * Front End in Python**
- * Functions for every task (menu/ insert/ update/ etc)**
- * Report/ Output from front-end**
- * must handle exceptions/ adverse situations**
- * Validations on name/ mobile-no/ date and business logics * Anything special, that you may implement**

कक्षा बारहवीं
विषय - हिंदी

- (1.) प्रतिदर्श प्रश्न-पत्र हल करने के लिए देना ।
- (2.) 'आरोह-2' व 'वितान-2' पाठ्य-पुस्तक से बहुविकल्पात्मक प्रश्नों को याद करने के लिए नोट्स देना ।
- (3.) अभी तक पढाए गए पाठों के महत्त्वपूर्ण प्रश्नों को याद करने के लिए व लिखने के लिए देना ।
- (4.) अपठित गद्यांश व पद्यांश अभ्यास के लिए देना ।
- (5.) 'अतीत में दबे पाँव' पाठ के प्रश्नोत्तर गृहकार्य में देना ।
- (6.) 'अभिव्यक्ति और माध्यम' पुस्तक के महत्त्वपूर्ण प्रश्न याद करने के लिए देना ।

विषयाध्यापिका
अंजू शर्मा
स्नातकोत्तर शिक्षिका (हिंदी)

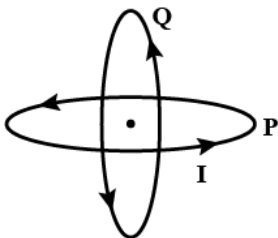
प्राचार्य

ASSIGNMENT

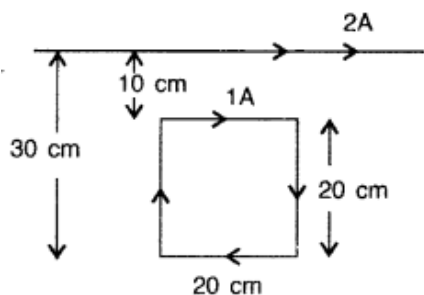
12TH PHYSICS

CHAPTER:1 TO 7

1. State Gauss's theorem. Write its mathematical form
2. Two point charges of $+16\mu\text{C}$ and $-9\mu\text{C}$ are placed 8 cm apart in air. Determine the position of the point at which the resultant field is zero.
3. An electric dipole is kept in a uniform external electric field, show diagrammatically the position of the dipole in (i) stable and (ii) unstable equilibrium and write the expressions for the torque acting on the dipole in both the cases.
4. A spherical balloon carries a charge that is uniformly distributed over its surface. As the balloon is blown up and increases in size, how does the total electric flux coming out of the surface change? Give reason.
5. Two charges of magnitudes $-2Q$ and $+Q$ are located at points $(a,0)$ and $(4a,0)$ respectively. What is the electric flux due to these charges through a sphere of radius ' $3a$ ' with its centre at the origin?
6. A spherical conducting shell of inner radius r_1 and outer radius r_2 has a charge Q . A charge ' q ' is placed at the centre of the shell.
7. What is the surface charge density on the (a) inner surface, (b) outer surface of the shell?
8. Write the expression for the electric field at a point $x > r_2$ from the centre of the shell.
9. Two charged conducting spheres of radii a and b are connected to each other by a wire. Find the ratio of the electric fields at their surfaces.
10. Define electric field intensity. Write its SI unit. Write magnitude and direction of electric field intensity due to an electric dipole of length $2a$ at the mid-point of the line joining the two charges.
11. An isolated point charge particle produces an electric field E at a point $3m$ away from it. At what distance the electric field will be $E/4$?
12. Two charges $2\mu\text{C}$ and $-2\mu\text{C}$ are placed at points A and B 5 cm apart. Depict an equipotential surface of the system.
13. An electric dipole of length 4 cm, when placed with its axis making an angle of 60° with a uniform electric field, experiences a torque of $4\sqrt{3}$ Nm. Calculate the potential energy of the dipole, if it has charge ± 8 nC.
14. Two charges of 5 nC and -2 nC are placed at points $(5\text{ cm}, 0, 0)$ and $(23\text{ cm}, 0, 0)$ in the region of space, where there is no other external field. Calculate the electrostatic potential energy of this charge system
15. Two identical circular wires P and Q each of radius R and carrying current ' I ' are kept in perpendicular planes such that they have a common centre as shown in the figure. Find the magnitude and direction of the net magnetic field at the common centre of the two coils.



16. A square loop of side 20 cm carrying current of 1A is kept near an infinite long straight wire carrying a current of 2A in the same plane as shown in the figure.



Calculate the magnitude and direction of the net force exerted on the loop due to the current carrying conductor.

17. A proton and an alpha particle having the same kinetic energy are, in turn, passed through a region of uniform magnetic field, acting normal to the plane of the paper and travel in circular paths. Deduce the ratio of the radii of the circular paths described by them.
18. A short bar magnet placed with its axis at 30° with a uniform external magnetic field of 0.25 T experiences a torque of magnitude equal to 4.5×10^{-2} J. What is the magnitude of magnetic moment of the magnet?
19. Derive an expression for torque on a magnetic dipole placed in a uniform magnetic field. Hence define magnetic dipole moment
20. How does a diamagnetic material behave when it is cooled to very low temperatures? Why does a paramagnetic sample display greater magnetization when cooled? Explain.
21. Derive an expression for magnetic field intensity at a point on the equatorial line of a bar magnet. What is the direction of this field?
22. Figure given below shows an arrangement by which current flows through the bulb (X) connected with coil, when a.c. is passed through coil. Explain the following observations
- Bulb lights up
 - Bulb gets dimmer if coil is moved upwards
 - If a copper sheet is inserted in the gap between the coils how the brightness of the bulb will change?