

D.A.V. CENTENARY PUBLIC SCHOOL
SECTOR-6, BAHADURGARH
Session (2024-25) Class-XII SCIENCE



“A vacation offers you the chance to revitalise and renew your mind and body. Vacations offer us a change of scenery, a thrill, and a means of escaping routine and fatigue.”

**By James Russell
Lowell**

Dear Students,

Warm Wishes!

We pray and wish the best of health and cheerful times to you. Vacations is a time that we all eagerly wait for. We all make plans to enjoy, to relax and to empower ourselves during these days. This summer vacation the holiday homework is designed for you all to achieve the motto of " Fun and Learn".

The activity based assignments will foster curiosity, develop creativity and instil the joy of learning among you all. So, make sure you extract the maximum benefit out of these holidays.

English

- 1). Prepare a book review after reading any one of the books mentioned below:
Five Point Someone - by Chetan Bhagat
Wings of Fire - by Abdul kalam Time Machine - by H. G. Wells
- 2). Write and learn 20 antonyms, synonyms and one word substitutions each.
(words may be taken from the texts you have done till now).
- 3) Write a self-composed poem about your mother/ grandmother or the person you like the most in your family. Ornament your poem with the use of literary devices that you learnt in the poem 'My Mother at Sixty Six' and present beautifully on A 4 size sheet.
- 4) Prepare a debate (for / against) on the given topic:
 - a) We are happier than our forefathers. (R.N.1 to 10)
 - b) Happiness is proportional to income ()R. N. 11 to 20)
 - c) Working mothers-A Boon or a Bane (20 to30)
 - d) Schools should promote the students to join coaching institutes (30...till last)
- 5) Activity:(to be done on A.4 sheet)
 - a) poster making on any social problem (1 to 12)
 - b) Slogan writing (13 to 24)
 - c) Literary devices (any two. With pictures and examples on 2 separate sheets) (25to 36)
 - d) Crossword Puzzle/ Riddles (37 till last roll no.)
- 6) write recapitulating points of all chapters done in literature.
- 7) Draft notice on the given topics:
 - a) Inter-house Debate competition c) Annual Sports Meet
 - b) Cultural Benefit Show d) Puppy lost in the park
- 8) write letter to the editor on the following issues:
 - a) Problem of Inflation
 - b) Proliferation of coaching centres

Chemistry

- Q.1 Solve Ncert exemplar and intent questions of CH 1 , 6 ,7
- Q.2 Solve questions of above chapters from CBSE question paper of 2020 to 2024.
- Q.3 Make Investigatory project on any topic of your choice (first confirm your project from me).
- Q.4 Make one creative and attractive mind map of all the chapters(1,6 & 7).
- Q.5 Make one working or non working model either of your choice or from given topics.
 - a) Electrochemical cell / Ostwald dilution law(Roll.no. 1 to 10)
 - b) Osmotic pressure (Roll no.11 to 20)
 - c) Elevation in boiling point (Roll no. 21 to 30)
 - d) SN1 and SN2 reaction (Roll no. 31 to 40)

Physics

- Solve all the NCERT questions from chapters 1, 2, and 3.
2. Solve all the NCERT exemplar problems from chapters 1, 2, and 3.
3. Compile a formula sheet covering Chapter 1, 2, and 3.
4. Prepare an Investigatory Project on a selected topic. Kindly confirm the topic before proceeding with the finalization.
5. Construct a working model based on any topic in physics and technology along with its working principle.

6. Create a vlog or podcast video exploring a science museum or natural phenomenon, highlighting the relevant physics laws. Duration of video should not be less than 3 minutes. Please introduce yourself initially with the school name.

Maths

Do all questions in a separate notebook

1. If the function f defined by $f(x) = \begin{cases} \frac{1-\cos cx}{x \sin x}, & x \neq 0 \\ \frac{1}{2}, & x = 0 \end{cases}$

Is continuous at $x = 0$, then find value of c .

2. For what values of k is the following function continuous at $x = -\pi/6$

$$F(x) = \begin{cases} \frac{\sqrt{3} \sin x + \cos x}{x + \frac{\pi}{6}}, & x \neq -\pi/6 \\ k, & x = -\pi/6. \end{cases}$$

3. If $f(x) = \frac{\sqrt{2} \cos x - 1}{\cot x - 1}$, $x \neq \pi/4$, find the value of $f(\pi/4)$ so that the function f become continuous at $x = \pi/4$.

4. If $y = (\sqrt{x + \sqrt{x^2 - 1}})^m$, prove that $(x^2 - 1) (dy/dx)^2 = m^2 y^2$.

5. If $y \sqrt{1 - x^2} + x \sqrt{1 - y^2} = 1$, prove that $dy/dx = -\sqrt{\frac{1 - y^2}{1 - x^2}}$.

6. If $y = \sqrt{\cos x + \sqrt{\cos x + \sqrt{\cos x + \dots \infty}}}$, prove that $(1 - 2y) dy/dx = \sin x$

7. Differentiate: (i) $\log_{\sin x} \cos x$ (ii) $\log_{x^2} \sin x$

8. If for a square matrix A , $A^2 - A + I = O$, Then find A^{-1} .

9. If the matrices $A = \begin{bmatrix} 1 & 2 & 2 \\ 1 & 3 & 4 \\ 1 & -1 & 3 \end{bmatrix}$, $B = \text{adj } A$ and $C = 3A$, then find $\frac{|\text{adj } B|}{|C|}$.

10. Minimise: $Z = 3x + 5y$, subject to $x + 3y \geq 3$, $x + y \geq 2$, $x, y \geq 0$.

Biology

1 Do previous year questions of chapter 1 to 5 in a separate notebook (questions should be 2, 3 and 5 marks only).

2 Draw following diagrams in the same copy and labelled them.

- | | |
|---|-----------------------------|
| a) Anotropous ovule | d) Male reproductive system |
| b) Female reproductive system | e) Female gametophyte |
| c) TS of pistil showing pollination and fertilization | |

3 Complete your investigatory project.

4 Prepare the concept maps on A3 sheets of chapter 1 to 4.

5 Prepare the working model of any topic as given

- | | | |
|--|---------------|-------------------------|
| a) Water treatment plant | c) Bioreactor | d) Working model of DNA |
| b) Any creative game of biology Or any other topic of biology of your choice | | |

6 Revise full syllabus

7 Bring one medicinal plant and write down the role of that plant in health on chart paper and

classify that plant with your name as a scientist.

8 Read chapter Human evolution and find out case based questions from this chapter and write in copy .

Physical Education

1. Labelled diagram of 400 metre track and explain 100 metre, 200 metre, 400 metre, 800 metre, and 1500 metre races and show in 400 metre track.

2. Field Events

Shot put, discus throw, javelin throw, long jump, High jump

3. Any one game of your choice out of the list above. Labelled diagram of field and equipment (rules, terminologies and skills) etc.

Football, Basketball, Kabaddi, Volleyball, Cricket, Hockey, Kho-kho

4. Pictorial presentation of any five asanas.

Do your holiday homework in practical file.

Music

1. भारतवर्ष के किन्हीं 8 राज्यों के लोक नृत्य का सचित्र वर्णन कीजिए।

2. भारतीय संगीत के वाद्य यंत्रों में से किन्हीं पांच वाद्यों के नाम व उनका चित्र सहित वर्णन कीजिए।

3. संगीत क्षेत्र में कौन से संगीतज्ञ को पद्म श्री, पद्म विभूषण और भारत रत्न पुरस्कार मिला है सचित्र वर्णन कीजिए।

4. तानपुरे का सचित्र वर्णन करते हुए तानपुरा मिलाने की विधि पर प्रकाश डालिए।

5. विद्योदायिनी मां सरस्वती का चित्र स्वयं बनाकर प्रोजेक्ट फाइल पर पेस्ट करें।

6. संगीत गायन में किसी एक गायक का चित्र सहित वर्णन कीजिए, संगीत वादन में किसी एक वादक का चित्र सहित वर्णन कीजिए एवं कथक नृत्य में किन्हीं दो का सचित्र वर्णन कीजिए।

Hindi

नोट :- प्रश्नों के उत्तर ध्यानपूर्वक और सुंदर लेख में हिंदी प्रदत्त कार्य (असाइनमेंट) लिखित पुस्तिका में लिखिए।
प्रश्न 1) 'भक्तिन' और 'बाजार दर्शन' पाठ को पढ़कर 10 - 10 अतिरिक्त प्रश्नों के उत्तर 40 से 50 शब्दों में लिखिए।

प्रश्न 2) 'आत्म परिचय' 'एक गीत' और 'पतंग' कविता को पढ़कर 10 - 10 अतिरिक्त प्रश्न उत्तर 30 से 40 शब्दों में लिखिए।

प्रश्न 3 'सिल्वर वेडिंग' पाठ को पढ़कर 5 अतिरिक्त प्रश्न - उत्तर लगभग 80 से 100 शब्दों में लिखिए।

प्रश्न 4 समाचार लेखन की शैली 'उल्टा पिरामिड शैली' को स्पष्ट करते हुए ककारों के साथ एक सुंदर सचित्र चार्ट अथवा A4 साइज शीट पर तैयार कीजिए।

प्रश्न 5 'सिल्वर वेडिंग' पाठ के आधार पर पीढ़ी के अंतराल को दर्शाते हुए एक सचित्र मॉडल अथवा चार्ट तैयार कीजिए। (Section A)

प्रश्न 6) बाजार एक जादू है वह आंखों के माध्यम से लोगों को अपने आकर्षण में फसाता है इस आकर्षण से हम अपने आप को कैसे बचा सकते हैं यह संदेश देते हुए चित्र सहित एक सुंदर चार्ट अथवा मॉडल तैयार कीजिए (Sec B)

अथवा

(ii) तुलसीदास द्वारा रचित ' रामचरितमानस ' के किसी प्रसंग पर एक मॉडल तैयार करें (A+B Sec)

प्रश्न 7 निम्नलिखित विषयों पर 100 से 120 शब्दों में फीचर लेखन लिखें।

i) युवाओं के लिए मतदान का महत्व। ii) कृत्रिम बुद्धिमत्ता (आर्टिफिशियल इंटेलिजेंस) का दौर

(iii) कर्म ही पूजा है (iv) आत्मनिर्भरता की ओर बढ़ते हमारे कदम।

प्रश्न 8 निम्नलिखित विषयों में से किसी एक विषय पर वार्षिक परीक्षा के लिए प्रायोगिक पुस्तिका (प्रोजेक्ट फाइल (15 से 20 पृष्ठों) तैयार कीजिए:-

* छायावाद के आधार स्तंभ 'जयशंकर प्रसाद', 'सूर्यकांत त्रिपाठी निराला' सुमित्रानंदन पंत' और 'महादेवी वर्मा' आदि कवियों के साहित्यिक जीवन पर। (अथवा)

* हिंदी साहित्य की गद्य विधाएं (कहानी, नाटक, उपन्यास, रेखाचित्र, संस्मरण) आदि की विस्तृत जानकारी।

* वर्तमान में जनसंचार माध्यम कितनी महत्वपूर्ण भूमिका निभा रहे हैं इसे प्रदर्शित करते हुए सचित्र एक प्रायोगिक पुस्तिका तैयार कीजिए

* तुलसीदास के रामचरितमानस के किसी प्रसंग पर आधारित। (लक्ष्मण मूर्छा और राम का विलाप कविता के आधार पर)

*डॉ भीमराव अंबेडकर जी के जीवन और व्यक्तित्व पर जाति प्रथा और श्रम विभाजन
 *पाठ्यक्रम में निर्धारित किसी भी एक कवि अथवा लेखक के संपूर्ण व्यक्तित्व और उनकी साहित्यिक रचनाओं पर।
 प्रश्न :-9) अप्रैल और मई के महीने में करवाए गए पाठ्यक्रम को याद कीजिए।

Informatics Practices

- XII-B Make a presentation/Animation on Cyber safety
 XII-C Make a chart on Mysql Functions (full chart)
 XII-E Make a chart on Online Banking and Transaction Methods (full chart)
 XII-F Create a PPT /animated video on The impact of Artificial Intelligence on Sustainable Development Goals to develop responsible citizenship

Note: For making animated videos you can use canva.com, powerpoint, kinemaster + green screen characters from youtube etc.

Do all questions in a separate/ assignment notebook.

Q1. Answer the following questions briefly:

- a) Write any two features/advantages of MySQL.
- b) What is a database ? What is a database management system? Give two examples of RDBMS. Write any two advantages of RDBMS.
- c) Write the full form of SQL? Explain the subcategories of SQL statements giving two examples in each category.
- d) Define the following by taking suitable examples wherever necessary :
 1.Primary Key 2. Candidate Key 3. Alternate Key 4. Foreign Key
- e) Differentiate between the following(Give examples to support your answer):
 - CHAR and VARCHAR datatypes
 - NUMERIC and NON NUMERIC datatypes
 - Tuple and Attribute
 - Degree and Cardinality of a relation
 - DELETE and DROP TABLE
- f) When entering multiple –line query in MySQL, what does the MySQL prompt change to ?
- g) After creating the “employee” database, you want to use it. Write the command that you should give.
- h) What is NULL value?
- i) What do % and _ mean inside a SELECT with LIKE statement ? Explain with the help of example of each.
- j) What are group/aggregate functions in MySQL? Explain the usage of any two group functions by taking example of each.
- k) Briefly explain the difference between single row functions and group functions by taking examples of each.
- l) Rama is not able to change a value in a column to NULL. What did she specify when she created the table?

Q2. Write a SQL statement to create the following table HOSPITAL.

Table: HOSPITAL

PN o	Name	Age	Department	DateofAdm	Charges	Sex
1	Sandeep	65	Surgery	23/02/98	300	M
2	Ravina	24	Orthopedic	01/01/98	200	F
3	Karan	45	Orthopedic	19/02/98	200	M
4	Tarun	12	Surgery	01/01/98	300	M
5	Zubin	36	ENT	12/01/98	250	M
6	Ketaki	16	ENT	24/02/98	300	F

7	Ankita	29	Cardiology	20/02/98	800	F
8	Zareena	45	Gynecology	22/02/98	300	F
9	Kush	19	Cardiology	13/01/98	800	M
10	Shailya	31	Medicine	19/02/98	400	M

Note: PNo is the primary key in the above table.

Write SQL commands for the statements (a) to (s) on the basis of the table HOSPITAL.

- a) To show all the information of the patients of the cardiology department..
- b) To list the names of female patients who are either in the orthopedic or surgery department.
- c) To list the name of all the patients with their date of admission in ascending order.
- d) To display the patient's name, charges, age for male patients only.
- e) To count the number of patients with age > 20.
- f) To display various departments.
- g) To display the number of patients in each department.
- h) To display the number of male & female patients.
- i) To display the details of the patients admitted in first quarter of 1998.
- j) To display the names of the department where the number of patients is less than 2.
- k) To display the details of all the patients whose name starts with the alphabet 'Z'.
- l) To change the age of the patient Kush to 20.
- m) To increase the charges of all the patients by 5%.
- n) To remove the record of the patient whose Name is Tarun.
- o) To add another column WardNumber of the type Number in the above table.
- p) To change the column Charges such that it can allow NULL values.
- q) To set charges to NULL for all the patients in the Surgery department.
- r) To decrease the charges by 10% of all the patients admitted in the Cardiology department.
- s) To remove the primary key constraint in the above table.
- t) To insert a new row in the HOSPITAL table with the following data:
11,'Mustafa',37,'ENT', '1998-02-25',250,'M'.

Give the output of the following SQL statements based on the above table HOSPITAL:

- (i) Select COUNT(DISTINCT Charges) FROM Hospital;
- (ii) Select MIN(Age) From Hospital WHERE Sex='M';
- (iii) Select AVG(Charges) FROM Hospital where DateofAdm < '1998-02-12';
- (iv) Select SUM(Charges) FROM Hospital where Sex ='F';
- (v) Select Left(Name ,4) FROM Hospital where Charges = 200;
- (vi) Select RIGHT(Name,3) FROM Hospital where Deaprtment='ENT';
- (vii) Select Length(Department) FROM Hospital where Department IN ('ENT','Orthopedic');
- (viii) Select CONCAT(Name,Age) FROM Hospital where Sex='F' and Age <18;
- (ix) Select LCASE(Department) FROM Hospital where Department Like '%y';
- (x) SELECT SUBSTR(Deaprtment,2,3) FROM Hospital where Charges between 500 and 1000;
- (xi) SELECT MONTH(DateofAdm) , DAY(DateofAdm) From Hospital where cost between 500 and 1000;
- (xii) SELECT NOW(), DAYNAME(CURDATE());
- (xiii) SELECT DAYOFYEAR(NOW());
- (xiv) SELECT ROUND(2345.67,2) , ROUND(2345.67,1) , ROUND(2345.67,0) ;
- (xv) SELECT POWER(25,-1), MOD(56,7) ;

