Answer the following :

1. **What is the basic difference in approach between the Mendeleev's Periodic Law and the Modern Periodic Law?**
2. **What would be the IUPAC name and symbol for the elements with atomic number 101,107,109,110 &120?**
3. The element with atomic number 119 has not been discovered. What would be the IUPAC name and symbol of this element? Also predict the electronic configuration, group and period of this element.
4. How is group, period and block of elements predicted.
5. **Give the electronic configuration and in terms of period group and block where would you locate the elements with Z= 17, 19. 24,26,29 31,34,38, 40, 51,55,114 ,117 and 120 ?**
6. **How would you justify the presence of 18 elements in the 5^{th} period of the Periodic Table?**
7. **On the basis of quantum numbers, justify that the sixth period of the periodic table should have 32 elements.**
8. Write the general outer electronic configuration s, p, d, & f block elements.
9. Why do elements in the same group have similar physical and chemical properties?
10. How is atomic radius expressed in terms of different types of radius?
11. **How does the atomic radius vary in a period and in a group? How do you explain the variation?**
12. **Why atomic radius of noble gases are not considered in comparison.**
13. **Explain why cations are smaller and anions larger in radii than their parent atom?**
14. **Describe the theory associated with the radius of an atom as it (a) gains an electron (b) Loses an electron**
15. **What do you understand by isoelectronic species? Name a species that will be isoelectronic with each of the following atoms or ions.(i)F^- (ii)Ar (iii)Mg^{+2} (iv)Rb^+**

16. **Consider the following species: N^{3-},O^{2-},F^{-} Na^{+},Mg^{+2}, and Al^{+3} (a)What is common in them? (b)Arrange them in the order of increasing ionic radii.**
17. Arrange the following in order of increasing radii: (a)N,O,P (b)F,Cl,Br (c)I^{-},I,I^{+}
18. Which of the following species will have the largest and the smallest size Mg, Mg^{2+}, Al, Al^{3+}.
19. Pick out among the following, Li^{+}, Al^{3+}, K^{+} , Mg^{2+} - species having smallest ionic radius
20. **A student reported the radii of Cu,Cu^{+} and Cu^{+2} as 96,122 & 72 ppm respectively do you agree with results.**
21. Define Ionization enthalpy. Give its unit. Explain the term successive ionization energies.
22. How does the Ionization vary in a period and in a group? How do you explain the variation?
23. **Among the second period elements the actual ionization enthalpies are in the order Li<B<Be<C<O<N<F<Ne Explain why (i) Be has higher ionization enthalpy than B. (ii)O has lower ionization enthalpy than N and F?**
24. **How would you explain the fact the first ionization enthalpy of sodium is lower than that of Magnesium but its second ionization enthalpy is higher than that of Magnesium?**
25. What are the various factors due to which the ionization enthalpy of the main group elements tends to decrease down a group?
26. Arrange C,N,O and F in the decreasing order of their second ionization enthalpy and explain briefly.
27. Explain why the first ionization enthalpy of Carbon is more than that of Boron but the reverse is true for second ionization enthalpy
28. **Would you expect the first ionization enthalpy for two isotopes of the same element to be same or different? Justify your answer.**
29. Define the term electron gain enthalpy.
30. **How does the electron gain enthalpy in a period and in a group? How do you explain the variation?**
31. **Would you expect the second electron gain enthalpy of O as positive, more negative or less negative than the first? Justify your answer?**
32. **Which of the following pairs of elements would have a more negative electron gain enthalpy? (i) O or F (ii)F or Cl (iii) O or S.Give reason to support your answer**
33. **Which of the following will have the most negative electron gain enthalpy and which the least negative? P, S, Cl, F.Explain your answer.**
34. In each of the following sets, arrange the elements in the increasing order of their negative electron gain enthalpies: (i)C,N,O (ii)O,N,S (iii) Cl,S,Ar (iv)F,Cl,Br
35. Which element do you think would have been named by
    (i) Lawrence Berkeley Laboratory (ii) Seaborg's group?
36. **What is the difference between the terms electron gain enthalpy and electronegativity?**
37. **Use the periodic table to answer the following questions.**

a) **Identify an element with five electrons in the outer subshell. (b) Identify an element that would tend to lose two electrons.(c) Identify an element that would tend to gain two electrons. (d) Identify the group having metal, non-metal, liquid as well as gas at the room temperature.**

38. **Assign the position of the element having outer eletronic configuration (i) ns^2np^4 for n=3(ii)$(n-1)d^2$ ns^2 (iii)$(n-2)f^7$ $(n-1)d^1ns^2$ for n=6 in the periodic table.**
39. **Predict the formulas of the stable binary compounds that would be formed by the combination of the following pairs of elements.**

a) **Lithium and oxygen (b) Magnesium and nitrogen (c) Aluminium and iodine (d) Silicon and oxygen (e) Phosphorus and fluorine (f) Element 71 and fluorine (g) silicon and bromine (h) aluminium and sulphur.**

40. **Considering the elements B, Al, Mg, and K, the correct order of their metallic character is 11. Considering the elements B, C, N, F, and Si, the correct order of their non-metallic character is:**
41. **Show by a chemical reaction with water that Na_2O is a basic oxide and Cl_2O_7 is an acidic oxide.**
42. **Considering the atomic number and position in the periodic table, arrange the following elements in the increasing order of metallic character : Si, Be, Mg, Na, P.**

Answer the following :

1. Define Covalent Bond. Explain its types with examples.
2. **Draw the Lewis structures for the following molecules & ions: H_2S, $SiCl_4$, BeF_2, CO_3^{2-}, $BeCl_2$, BCl_3, $SiCl_4$, AsF_5,H_2S,PH_3,PCl_5,SF_6,NH_3,SF_4,ClF_3,BrF_5,XeF_4,NO_3^-**
3. Explain some compounds which are exceptions to Octet rule.
4. **What is Formal Charge? Calculate the formal charge on all elements of O_3 & CO_3^{2-}.**
5. Define Electrovalent Bond or Ionic Bond. Write the favorable factors for the formation of ionic bond.
6. **Is CaF_2 linear or bent or neither of the two ? Justify.**
7. Use Lewis symbols to show electron transfer between the following atoms to form Cations and anions: (a) K and S (b) Ca and O (c) Al and N (d)Al and O
8. Define octet rule. Write its significance and limitations.
9. What is Coordinate Bond or Dative Bond.
10. Give the main points of VSEPR theory
11. **Discuss the shape using the VSEPR model: H_2S, $SiCl_4$, BeF_2, CO_3^{2-}, $BeCl_2$, BCl_3, $SiCl_4$, AsF_5, H_2S, PH_3,PCl_5,SF_6,NH_3,SF_4,ClF_3,BrF_5,XeF_4,NO_3^-**
12. **Draw the structure of the following : (i) BrF_3 (ii) XeO_3**
13. CH_4, NH_3 and H_2O contain same number of electrons but their shapes are different ?
14. Which of the following has maximum bond angle? H_2O, CO_2, NH_3, CH_4?
15. **Draw an orbital diagram showing the formation of bonds in C_2H_4.**
16. **Draw and predict the shape of (i) ClF_3 molecule (ii) PCl_5**
17. **Although geometries of NH_3 and H_2O molecules are distorted tetrahedral, bond angle in water is less than that of ammonia. Discuss.**
18. **Define Resonance. Explain the structure of CO_3^{2-} ion in terms of resonance.**
19. Write the resonance structures for SO_3, NO_2 and NO_3^- , CO_2
20. Explain the Dipole moment. How it is helpful in predicting polar & Non polar nature of compounds.
21. **Explain why BeH_2 molecule has zero dipole moment although the B-H bonds are polar.**
22. **Which out of NH_3 and NF_3 has more dipole moment and why?**
23. **Arrange the bonds in order of increasing ionic character in the molecules: LiF, K_2O, N_2, SO_2 and ClF_3.**
24. Explain the formation of Hydrogen molecule on basis of Valence Bond Theory.
25. **Distinguish between a sigma (σ) and a pi (π) bond**
26. **What is the total number of sigma and pi bonds in the following molecules? (a) C_2H_2 (b) C_2H_4.**
27. **Name the type of hybridization of each C atom in a molecule of (i) propene (ii) propyne. How many σ and π – bonds are present in each case?**
28. **What is meant by hybridization of atomic orbitals?**
29. **Describe sp,sp^2, sp^3 hybrid orbitals using suitable examples.**
30. **Describe the change in hybridization (if any) of the Al atom in the following reaction: $AlCl_3 + Cl^- \rightarrow AlCl_4^-$**
31. **Is there any change in the hybridization of B and N atoms as a result of the following reaction: $BF_3 + NH_3 \rightarrow F_3B.NH_3$**
32. **Predict the hybrid state of central atom in the following compounds: H_2S, $SiCl_4$, BeF_2, CO_2^{3-} , $BeCl_2$, BCl_3, $SiCl_4$, AsF_5, H_2S, PH_3,PCl_5,SF_6,NH_3,SF_4,ClF_3,BrF_5,XeF_4.**

33. **Explain the concept of hybridization in PCl_5 .Why are axial bonds longer as compared to equatorial bonds in PCl_5.**
34. Although both CO_2 and H_2O are tri-atomic molecules, the shape of H_2O molecule is bent while that of CO_2 is linear.
35. How will you justify identical nature of all the C-O bonds in CO_3^{2-} ion?
36. **Explain the concept of hybridization in SF_6 .**
37. **Which hybrid orbitals are used by carbon atoms in the following molecules? (a) CH_3-CH_3 (b) CH_3-CH=CH_2 (c) CH_3-CH_2-OH (d)CH_3-CHO (e) CH_3-COOH (f) H_2C=CH-CH_2-CΞCH**
38. Write the conditions for the combination of atomic orbitals.
39. Assuming Z-axis as molecular axis, label the molecular orbitals formed by the following combination **of atomic orbitals :**

(i) 1s + 1s (ii) $2p_y - 2p_y$ (iii) $2p_z + 2p_z$ (iv) 2s + 2s (v) $2p_x + 2p_x$

40. Distinguish between bonding molecular orbital & anti bonding molecular orbital.
41. **Write the molecular orbital configuration and energy diagram for(i)O_2^+, O_2, O_2^-, O_2^{2-} (ii)N_2,N_2^+,N_2^- (iii) Be_2, H_2, C_2**
42. Draw the energy diagram for H_2,Be_2, N_2, & O_2.
43. **When a magnet is dipped in a jar of liquid O_2, some O_2 clings to it. Why ?**
44. **What is meant by the term bond order. Write the significance of bond order**
45. **What information does MOT provide for O_2, O_2^+ and O_2^- molecular species with regards to :**
    a. **Bond dissociation energy**
    b. **Bond length.**
46. **Compare the relative Stability of the following species and indicate their magnetic properties. (i)O_2^+, O_2, O_2^-, O_2^{2-} (ii)N_2,N_2^+,N_2^-**
47. **Use the molecular orbital theory to explain why Be_2 molecule does not exist.**
48. **Why the He_2 molecule does not exist, explain on the basis of molecular orbital theory.**
49. **Define hydrogen bond .Explain its types with suitable examples.**
50. N and Cl have the same electronegativity, H-bonding is present in NH_3 but not in HCl explain ?
51. Assign suitable reason for HF is liquid while HCl is gas ?
52. **Assign suitable reasons for the following :**
    a. **H_2O is liquid at room temperature while H_2S is gas.**
    b. **o-nitrophenol is steam volatile while p-nitrophenol is not.**
53. Is hydrogen bond weaker or stronger than the van der Waals forces?
54. **.** Give reason (i) All P-Cl bonds in PCl_5 molecule are not equal. (ii) N_2 is less reactive than O_2 (iii) BF_3 is non polar while NH_3 is a polar molecule.

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION

MATHS WORKSHEET [2024-25]

STD. XI [SCIENCE]

CHAPTER : TRIGONOMETRIC FUNCTIONS

1. **A wheel makes 360 revolutions in one minute. Through how many radians does it turn in one second ?**
2. **In a circle of diameter 40 cm, the length of a chord is 20cm. Find the length of minor arc of the chord.**
3. **Prove that (sin3x + sin x) sinx + (cos 3x – cos x) cosx = 0.**
4. **Find sin$\frac{x}{2}$, cos $\frac{x}{2}$ & tan $\frac{x}{2}$ for tan x = - $\frac{4}{3}$, x in 2nd quadrant.**
5. **Prove that : $\frac{(sin\ 7x+sin5x)+(sin\ 9x+sin\ 3x)}{(cos\ 7x+cos5x)+cos9x+cos3x)}$ = tan 6x.**

CHAPTER : BINOMIAL THEOREM

1. **Using the binomial theorem, show that 3^{2n} -8n – 1 is divisible by 64, for n ∈ N.**
2. **Find the coefficient of : x^6 in (x + 2)^9 .**
3. **Expand using B.T. : (3x + 2y)^5 .**
4. **Find : (2+ $\sqrt{3}$)^7 + (2 - $\sqrt{3}$)^7.**
5. **Evaluate using B.T. – (0.98)^2 .**

CHAPTER : SEQUENCES & SERIES

1. **Find sum of first n terms of a sequence : 7, 77, 777, …….**
2. **Find four positive consecutive terms in a G.P. such that their product is 16 & having sum of second & third terms equal to 5.**
3. **If for a G.P., r = $\frac{1}{3}$ & S_4 = $\frac{80}{27}$, then find a.**
4. **If 25, x – 6 and x – 12 are consecutive terms of G.P., then find x .**
5. **If the first term of a G.P. is 3 and the common ratio is 2 , then find the sum of first five to ten terms.**

KENDRIYA VIDYALAYA SILVASSA

AUTUM BREAK HOLIDAY HW

CLASS XI A BIOLOGY

1. COMPLETE PRACTICAL FILE.
2. COMPLETE INVESTIGATORY PROJECT FILE.
3. SOLVE NCERT QUESTION AND PREPARE NOTES TILL BIOMOLECULES IN NOTE BOOKS.
4. SOLVE THE COMPETENCY FOCISED QUESTION'S MATERIAL PROVIDED IN CLASS.

Subject-Physics class 11.

Holiday homework

Work and Energy
1. Define work and energy. How are they related?
2. What is the difference between kinetic energy and potential energy?
3. A force of 10 N acts on an object, displacing it by 5 m. Calculate the work done.
4. A 2 kg object moves with a velocity of 4 m/
s. Calculate its kinetic energy.
5. What is the efficiency of a machine that converts 80% of input energy into useful work?
6. Derive the equation for conservation of energy.
7. Explain the concept of gravitational potential energy.
8. Calculate the work done by a spring force when stretched by 2 cm.

Escape Velocity
1. Define escape velocity and explain its significance.
2. Derive the equation for escape velocity from a planetary surface.
3. Calculate the escape velocity from Earth's surface.
4. Compare the escape velocities from Earth, Mars, and Jupiter.
5. Explain why rockets are launched vertically to achieve orbit.
6. What factors affect the escape velocity from a planet?
7. Calculate the escape velocity from the surface of a satellite with mass M and radius R.
8. Explain the concept of orbital velocity and its relation to escape velocity.

Numerical Problems
1. An object of mass 5 kg is lifted through a height of 10 m. Calculate the work done. (g = 9.8 m/s?)
2. A car accelerates from 0 to 20 m/s in 4 s.
Calculate its kinetic energy.
3. A spring with force constant 100 N/m is stretched by 5 cm. Calculate the elastic potential energy.
4. Calculate the escape velocity from the
surface of Mars (mass = 6.42 x 10^23 kg,
radius = 3.39 x 10^6 m)
5. A rocket of mass 1000 kg is launched vertically with an initial velocity of 50 m/s.
Calculate its kinetic energy.

Long Answer Questions
1. Explain the concept of work and energy, and derive the equation for conservation of energy.
2. Describe the factors that affect the escape velocity from a planet, and calculate the escape velocity from Earth's surface.
3. Compare and contrast kinetic energy and potential energy.

Multiple Choice Questions

1. What is the unit of work?

a) Joule

b) Newton

c) Meter

d) Second

2. Which of the following is an example of potential energy?

a) Kinetic energy of a moving car

b) Gravitational potential energy of an object at height

c) Thermal energy of a hot body

d) Electrical energy of a battery

3. The escape velocity from Earth's surface is approximately

a) 11.2 km/s

b) 10.2 km/s

c) 9.8 km/s

d) 8.2 km/s

KENDRIYA VIDYALAYA SILVASSA
AUTUMN BREAK HOLIDAY HOMEWORK (2024-25)
ENGLISH- XI

Project will include the following sections:

1. Cover Page with title of project, school details/details of student.
2. Acknowledgement
3. Certificate by Guide
4. Content : INDEX

i) Introduction of what they are going to write about
ii) Procedure
iii) Output of the project : a story/ a report/ an interview/ a letter/ autobiography/travelogue/poetry/article etc.
iv) PASTE RELEVANT PICTURES
v) Conclusion
vi) Bibliography

WORD LIMIT : 800-1000 words.
Material : A4 Sheets put in a stick file or cover creatively.

CLASS SECTION & ROLL NO. WISE DISTRIBUTION OF TOPICS IS AT THE END.

TOPIC 1 : CLASSIFIED ADVERTISEMENT **(TO BE DONE BY ALL)**

1. **What is a CLASSIFIED ADVERTISEMENT?**
2. **What are the kinds of Classified Advertisement?**
3. **What is the format of an ADVERTISEMENT?**
4. **Cut from English Newspaper and Paste 5 Classified Advertisements- one each of**
   - **SITUATION VACANT**
   - **SITUATION WANTED**
   - **FOR SALE**
   - **TO LET**
   - **ACCOMODATION** WANTED
5. Write down five sample examples of the above. (USE COLOURS AS ITS FOR PROJECT WORK)

TOPIC 2: POSTER DESIGNING

1.What is a POSTER?
2.How have POSTERS originated?
3.What is the need/purpose of a POSTER?
4.What is the format of a POSTER?
5.What are the types of POSTER in your syllabus?
6. PASTE SOME PICTURES OF ATTRACTIVE POSTERS.
7. What are the important ingredients of a Poster.
8. Draw a Colourful layout of a Poster each related to:

a) Social theme/problem
b) An Event (Cultural show/ seminar/ fete/ fair/exhibition)
c) Educational institutions & Students' Activities

TOPIC 3: A PHOTOGRAPH

1. Write the poem in your file.
2. Write about the poet- SHIRLEY TOULSON – Her life, career, books/poems that she has written.
3. Write the summary of the poem.

4. Identify and explain the poetic devices used in the poem by the poet.
5. Mention the PHASES OF LIFE suggested by the poet.
6. Represent the poem pictorially.
7. What do you think is a Photograph? Why do we preserve photographs?
8. Write a song or a poem in English which is dedicated to the topic ''PHOTOGRAPH".

TOPIC 4: THE SUMMER OF THE BEAUTIFUL WHITE HORSE

1. How does the story begin?
2. What is the HALLMARK OF GAROGHLANIAN TRIBE in the story?
3. What is the theme of the story?
4. Paste a map of Asia and Europe and Locate Armenia, Russia, Ukraine and Uzbekistan in it.
5. What message does the story convey in the end?
6. Draw/Paste pictures based on the lesson.
7. Paste some pictures of Tribal people like Gurzars, Bhotias, Boxas and Rajis from Uttarakhand.

TOPIC 5: WE ARE NOT AFRAID TO DIE IF WE CAN ALL BE TOGETHER

1. Who are the important characters in the lesson
2. What is the message of the lesson?
4. Describe the different parts of a ship? Draw a picture of a ship on sail.
5. What impression of the narrator do you form on reading the story?
6. Make a list of the different difficult terms of sea-voyage with its meaning.
7. Draw a map of the route undertaken by Captain James Cook and the narrator along with his family.

TOPIC 6: THE ADDRESS

1. Briefly describe the consequences of the First & Second World War. Paste some pictures of both wars.

2. Write down the summary of the Lesson "THE ADDRESS". Paste some pictures also.
3. What is the theme of the lesson?
4. Who are the important characters of the story?
5. What message does the story convey.
6. Supplement your project by pasting pictures related to the incidents narrated in the chapter.
7. Write a few lines about the Ukraine- Russia war or the Iran-Israel war. Paste some pictures also.

TOPIC 7: MOTHER'S DAY

1.What is the genre of the piece?
2.Write a few words about the writer.
3.What moral issue does the story raise?
4.Mention the theme of the story?
5.Write in your own words the summary of the story/play.
6.Who are the characters in the story? Mention them.
7.Pick up a scene from the drama/play. Write a script for the scene.
8.Draw/Paste the picture of the Pearson family. Draw a character sketch of Mrs. Pearson in a few lines.
9. "Mother is just like the air we breathe in". Explain with reference to the lesson. Paste some pictures associated with the mother.

TOPIC 1 – FOR ALL THE STUDENTS

CLASS 11 A

TOPIC 2- ROLL NO. 1 - 7
TOPIC 3- ROLL NO. 8 - 14
TOPIC 4- ROLL NO. 15-21
TOPIC 5- ROLL NO. 22-28
TOPIC 6- ROLL NO. 29-34

TOPIC 7- ROLL NO.35- 40

CLASS 11 B

TOPIC 2- ROLL NO. 1-5
TOPIC 3- ROLL NO. 6-10
TOPIC 4- ROLL NO. 11-15
TOPIC 5- ROLL NO. 16-20
TOPIC 6- ROLL NO. 21-25
TOPIC 7- ROLL NO.26- 31

CLASS 11 C

TOPIC 2- ROLL NO. 1-3
TOPIC 3- ROLL NO.4-6
TOPIC 4- ROLL NO. 7-10
TOPIC 5- ROLL NO. 11-14
TOPIC 6- ROLL NO. 15-18
TOPIC 7- ROLL NO. 19-22

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केन्द्रीय विद्यालय सिलवासा
शरदकालीन अवकाश गृह कार्य
कक्षा-11
हिन्दी

1 अभियक्ति और माध्यम से संबंधित निम्न विषयों पर वस्तुनिष्ठ प्रश्नों व बहुवैकल्पिक प्रश्नों का लेखन करें।

- जनसंचार
- समाचार पत्र
- पत्रकारिता के विविध आयाम
- पत्रकारिता के प्रकार
- विभिन्न माध्यमों के लिए लेखन
- रेडियो, टी .वी,
- इंटरनेट
- पत्रकारिता लेखन के विभिन्न रूप व लेखन
- आलेख, रिपोर्ट, फीचर

2 आलो अधारि (वितान पुस्तक पर आधारित पाठ की समीक्षा)

- पाठ का पठन
- पात्र विवरण
- उद्देश्य
- शीर्षक की सार्थकता
- पाठ का सार
- प्रश्न उत्तर (वस्तुनिष्ठ प्रश्नों व बहुवैकल्पिक)

सुमित्रा देवी मीणा
पी.जी.टी(हिन्दी)

KENDRIYA VIDYALAYA
CLASS – XI [Session 2024-25]
SUBJECT – COMPUTER SCIENCE
(AUTUMN BREAK HOLIDAY HOMEWORK)

Computer system and organization:

1) Define computer.
2) How does an ALU work?
3) Briefly explain the working of a control unit.
4) Define hardware and software.
5) What is an operating system? Explain types of OS.
6) Specify the measuring units of memory.
7) Differentiate between RAM and ROM.
8) Name any 4 input devices and output devices.
9) Differentiate between Interpreter and compiler.
10) List the differences between a CD and A DVD.
11) List and briefly explain all the components of a CPU.
12) Compare data and information.
13) Compare volatile memory and nonvolatile memory.
14) Discuss the classification of digital computers.

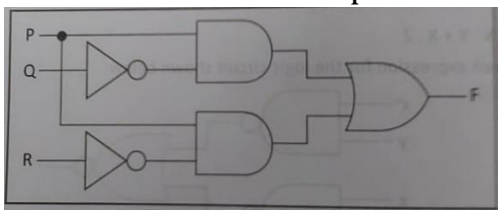
Binary number system

1) Convert $(38.625)_{10}$ to its binary equivalent.
2) Convert $(1101)_2$ to its decimal number.
3) Convert $(EF.B1)_{16}$ to its decimal equivalent.
4) Convert $(2C9)_{16}$ into decimal
5) Convert $(423)_{10}$ into hexadecimal
6) Convert $(ABCD)_{16}$ TO $(\ldots.)_2$
7) Perform the following:

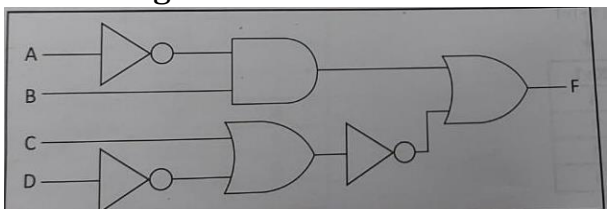
Boolean Algebra

1) Draw a truth table and circuit diagram of NAND gate.
2) What is truth table?
3) What is logic gates?
4) Verify the following using truth table.
   X+Y.Z = (X+Y)(X+Z)
5) Draw a logic circuit diagram for the following:
   a. (A+B)(B+C)
   b. (A.B')+(C+D')+(B.D')
   c. (A+B).(BC+D')
6) Obtain the Boolean Expression for the following circuit shown below:

1



2



7) State De-Morgan's law and prove it using Truth table.

Features of Python

1) What is python?
2) Why is python interpreted?
3) Who developed python?
4) What is IDLE?
5) Write features of python.
6) In how many modes python IDLE works?
7) Python is a free and open source language. What do you understand by this feature?
8) What is pseudo code? What is flow chart?
9) Write a pseudo code to calculate area and perimeter of rectangle.
10) Differentiate between Interactive mode and scripting mode.

Python Fundamentals:

1) Define Token. Name different types of it.
2) Differentiate between Keyword and Identifiers.
3) Write Identifier forming rules.
4) What is variable. What are the different components of a variable.
5) Is python case sensitive? What is meant by the term 'case-sensitive' in programming language.
6) Differentiate between mutable and immutable object.
7) Ritu is confused between 3*2 and 3**2. Help her to know the difference between the two expressions.
8) How many types of string are supported in python?
9) Differentiate between explicit and implicit type conversion.
10) What is None in python?
11) Identify the types of the following literals:
23.789, 23789 , True, {4:'four', 5:'five'}, 'True', (1,2,3), None, [100,200,300]
12) Find the output generated by the following:

(1) x=2 y=3 x+=y print(x,y)	(2) x=8 y=2 x+=y y-=x print(x,y)
3) a=5 b=10 a+=a+b b*=a+b print(a,b)	4) p=10 q=20 p*=q//3 q+=p+q**2 print(p,q)

13) Differentiate between Expression and statement in python?
14) Write the output of the following:

```
x,y=2,6
x,y=y,x+2
print(x,y)
```

15) What output will be produced by the following code:

```
A,B,C,D = 9.2,2.0,4,21
print(A/4)
print(A//4)
print(B**C)
print(A%C)
```

16) Evaluate the following expression:
   a. (2+3)**3-6/2
   b. 12*3%5+2*6/4
17) Identify the invalid variable names from the following giving reason for each:
   Group, if, total marks, S.I. , volume, tot_strength, #tag, tag$, 9a,for
18) Write python expression equivalent to the following:
   a. $A = P(1 + \frac{r}{n})^{nt}$
   b. $\sqrt{a + \frac{a+2}{b}}$
19) What are operators? Give some examples of unary and binary operators.
20) Write a code to calculate area of triangle. Accept input from the user.
21) Write a python code to accept radius of a circle nad print its area.
22) Write a python program that accepts marks in 5 subjects and outputs average marks.
23) Write a code to find area and perimeter of rectangle.
24) Write a code to find Simple Interest and Compound interest.
25) Write a code accept temperature in Celcius and covert it into Fahrenheit.