PR X (A-I-B3) 25
CHEMISTRY
10th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

Section – B
Marks: 32

Answer any EIGHT parts. Each part carries FOUR marks.

Q.1 Find the value of K_c for the given reaction if the concentration of H_2 is 0.50 M, I_2 is 1.50 M and HI is 0.75 M. $\quad H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$

Q.2 Discuss Bronsted-Lowary concept of acid and bases with reference to formation of NH_4^+ ion and H_3O^+ ion.

Q.3 Define mutation, its effect and causes. How they can be repaired?

Q.4 What is the role of arrangement of atoms and strength of covalent bond in diversity of organic compounds with examples?

Q.5 Write the reaction involves in the formation of Hexyl and Heptyl formed. Also write the name of alkanes from which they are formed.

Q.6 Differentiate between the C_4H_{10} (Butane) and C_4H_8 (Butene) molecule with the help of electron dot structure.

Q.7 Explain uses of lipids with reference to Integral part of cellular structure, solvent, manufacturing and hormones.

Q.8 What are the primary function of Vitamin A, Vitamin B, Vitamin K and Vitamin E?

Q.9 What is the effect of oxides of carbon, nitrogen and sulphur on fishes and wild life?

Q.10 What are the effects of hard water when used in boilers and for drinking?

Q.11 What is slag? What chemical changes occur in cuprous sulphide in blast furnace?

Section – C
Marks: 21

Note: Attempt any THREE questions. All questions carry equal marks.

Q.12 (a) What are forward reaction explain with the help of example. (3)

(b) Give structural and condensed formulae of Butane and Butene. (4)

Q.13 (a) Write dissociation reactions of the following compounds. (3)
(i) HCl (ii) H_2SO_4 (iii) HNO_3

(b) Classify the following organic compounds into Ali-cyclic or aromatic organic compounds. (4)
(i) Cyclopentane (ii) Benzene
(iii) Napthalene (iv) Cyclobutane

Q.14 (a) Write dehydrohalogination reaction of adjacent dihalides. (3)

(b) Differentiate between ozone layer depletion and ozone hole. (4)

Q.15 (a) What are poly saccharides? Give example of poly saccharides present in plants and animal (one of each). (3)

(b) Mention the name of diseases that are caused by using polluted water containing arsenic and fluoride minerals? (4)

PR IX (A-I-A5) 25
CHEMISTRY
9th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

Marks: 32

Section – B

Answer any EIGHT parts. Each part carries FOUR marks.

Q.1   Give at-least four main differences between mixture and compound.

Q.2   What did Rutherford discovered as a result of gold foil experiment?

Q.3   Which atom in each of the following sets has smallest electron affinity value and why?

    (a)   K, Na, Li   (b)   Be, Mg, Ca   (c)   F, Cl, Br

Q.4   How many valance electrons are present in the following elements?

    (a)   Phosphorus   (b)   Sulphur   (c)   Nitrogen   (d)   Sodium

Q.5   What is the key difference between the bonding between NH_4^+ and CH_4 molecule? Give suitable reasons.

Q.6   Why water has less vapour pressure than that of acetone at same temperature?

Q.7   A solution of NaOH (molar mass 40 g mol^{-1}) was prepared by dissolving 1.6 g of NaOH in 500 cm^3 of water. Calculate molarity of the NaOH solution.

Q.8   Differentiate between miscible and immiscible liquid with example of each.

Q.9   How do strong electrolytes differ from weak electrolytes in terms of ionization? Give examples.

Q.10   Write reactions which take place during electrolysis of fused sodium chloride.

Q.11   Write reaction of sodium with:

    (i)   Sulphur

    (ii)   Chlorine

Section – C

Marks: 21

Note: Attempt any THREE questions. All questions carry equal marks.

Q.12   (a)   How many moles are present in 20 g of H_2O?   (3)

    (b)   Write electronic configuration of following elements in their sub-shells.   (4)

        (a)   Beryllium   (b)   Nitrogen   (c)   Oxygen   (d)   Neon

Q.13   (a)   Which group in periodic table is known as halogens? Write main characteristic of halogens.   (3)

    (b)   Draw Lewis structure of the following compounds.   (4)

        (a) H_2S (b) H_2O (c) NH_3 (d) N_2

Q.14   (a)   Classify the following as amorphous and crystalline solids.   (3)

        (a)   Cotton Candy   (b)   Naphthalene   (c)   Lead Pencil

    (b)   A sample of water contains 2g of hydrogen and 16g of oxygen. Calculate percentage composition by mass?   (4)

Q.15   (a)   Identify oxidizing and reducing agents in the given reaction. Justify your answer with reference to oxidation state. $2Mn + SnCl_4 \longrightarrow 2MnCl_2 + Cl_2$ (4)

    (b)   How un-reactivity of platinum makes it useful?   (3)

PR X (A-I-B4) 25
PHYSICS (New Course)
10th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

Section – B

Marks: 32

Answer any EIGHT parts. Each part carries FOUR marks.

Q.1   What is the difference between echo and reverberation?

Q.2   Find the speed of sound in air at 15°C.

Q.3   What are the symptoms and causes of long-sightedness and how can it be corrected by using lenses?

Q.4   Explain the law proposed by Coulomb about electric force between stationary point charges.

Q.5   Explain electrical power and derive three equations for it using Ohm's law.

Q.6   A current of 6 A is used to boil a kettle in 15 minutes using 4.32×10^5 J of energy. Find the potential difference across the kettle.

Q.7   What is induced EMF and identify three factors that influence its magnitude?

Q.8   Define logic gates and describe the operation of NOR gate by drawing its symbol and truth table.

Q.9   Define information storage devices and describe the use of CD and DVD.

Q.10   Write the nuclear reaction for the alpha decay of $^{263}_{106}X$ and $^{218}_{84}X$. (X represents parent and Y represents daughter nuclei).

Q.11   What are radioisotopes? Describe any two medical uses of radioisotopes.

Section – C

Marks: 21

Note: Attempt any THREE questions. All questions carry equal marks.

Q-12   (a)   What is Simple Pendulum? Show that time period of Simple Pendulum is independent of its mass and amplitude.

       (b)   Find the time period of a pendulum with a length of 0.6 m, that swings on Mercury where gravitational field strength is 3.73 m/s^2.

Q-13   (a)   How does total internal reflection occur, what is the method to calculate the critical angle, and what conditions are necessary for it to occur?

       (b)   An optical fiber made of flint glass (refractive index 1.66) is surrounded by crown glass (refractive index 1.52), find the critical angle.

Q-14   (a)   What is meant by capacitance? Derive the formula for the effective capacitance when capacitors are connected in parallel.

       (b)   Two capacitors of 6 μF and 8 μF are connected in parallel through a voltage source of 100 V. Calculate the total capacitance and charge on each capacitor.

Q-15   (a)   How does AC generator work? Explain its construction and working principle.

       (b)   If the current through the primary coil changes from –63 A to +7 A in 0.02 s, such that the induced emf is 1.4 V. Find the mutual inductance.

PR IX (A-I-A3) 25
PHYSICS (New Course)
9th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

<div align="center">Section – B</div> Marks: 32

Answer any EIGHT parts. Each part carries FOUR marks.

Q.1 Differentiate the base and derived physical quantities among the following:
Luminous Intensity, Torque, Electric Current, Velocity, Temperature,
Distance, Weight, Pressure

Q.2 A stone is dropped from a bridge and reaches the surface of water in 7 seconds. Find the height of the bridge from the surface of water.

Q.3 State Newton's Third law of motion and give two examples.

Q.4 Find the magnitude of centripetal force on a body of mass 4 kg moving with velocity 6 m/s in circle of radius 2m.

Q.5 State head-to-tail rule for vector addition of forces.

Q.6 Ali is pushing a cart with a force of 40 N at 60° with floor. Find the vertical and horizontal components of force.

Q.7 What is gravitational force? Does sun exert a stronger force on the Jupiter than the Jupiter exerts on the Sun? Justify your answer.

Q.8 A person pushes a shopping cart with a force of 30 N at an angle of 45° with horizontal over a distance of 5 m. Calculate the work done on the cart.

Q.9 What is the law of conservation of energy and how does it relate to electricity generation?

Q.10 What are stress and strain? Write their mathematical forms and units.

Q.11 Define conduction and explain how woolen sweaters keep us warmer in winter?

<div align="center">Section – C</div> Marks: 21

Note: **Attempt any THREE questions. All questions carry equal marks.**

Q-12 Describe motion and compare rotatory motion and vibratory motion with respect to:
(i) Movement of particles of an object (ii) Path of motion
Give examples from real life.

Q-13 (a) Obtain the expression for calculating mass of earth using law of universal gravitation.

(b) Determine the gravitational force between two bodies of masses, 3×10^3 kg and 8×10^2 kg, when they are separated by 0.5 m. (G = 6.67×10^{-11} Nm^2kg^{-2})

Q-14 (a) How does Pascal's Law explain the uniform transmission of pressure in a confined fluid? Explain with the help of example.

(b) The small piston of a hydraulic lift has an area of 0.20 m^2 where the large piston has an area of 0.90 m^2. A car weighing 1.2×10^4 N sits on rack mounted on the large piston. How large a force must be applied to the small piston to support the car?

Q-15 (a) Explain the linear thermal expansion of solids and the factors on which it depends.

(b) A railway line made of iron is 1200 km long and is laid at 27°C. By how much will it expand in summer when temperature rises to 42°C. ($\alpha = 12 \times 10^{-6} K^{-1}$)

PR X (A-I-B4) 25
ENGLISH (New)
10th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B
Marks: 36

Read the following passage carefully and answer any 6 from question No.1 to Question No.7. **(18)**
The rest of questions in the paper are compulsory.

After the fall of the Muslim in Spain, the Masjid was converted into a cathedral in 1246 A.D. and a giant nave was built in the center of the Masjid. Upon completion of the cathedral, King Charles the Fifth visited the area for the first time and remarked, "We have built what other might have built elsewhere; but we have destroyed something that was unique to the world"

Iqbal was so moved by the magnificence of the Masjid that he saw the traces of the Ishq of those who built it. Ishq, according Iqbal, is the burning desire to do one's utmost to achieve one's ideal of perfection and self-realization through the moral teachings of Islam. It was this uplifted passion that made Muslims of that era extend their dominance to far off lands.

Q.1	Which unique thing was destroyed to built a cathedral?	**(03)**
Q.2	What did the king say about the Masjid?	**(03)**
Q.3	What was the effect of the fall of Muslim on Masjid?	**(03)**
Q.4	According to the passage, what was the cause of Muslims' dominance in the past?	**(03)**
Q.5	What did Iqbal see in the magnificence of the Masjid?	**(03)**
Q.6	Change the given nouns into verbs: completion, realization, teachers	**(03)**
Q.7	Give a suitable title to the passage.	**(03)**

Q.8 **Paraphrase the following lines.** **(05)**
Figure it out for yourself, my lad,
You've all that the greatest of men have had,
Two arms, two hands, two legs, two eyes,
And a brain to use if you would be wise.

Q.9 **Read the following stanza carefully and answer the questions given at the end.** **(08)**
Though guns may roar and cannon boom,
Roses are born and gardens bloom;
My spirit still may light its flame
At that same torch whence, Poppies came.
   i.   What image is created by roaring guns and booming cannon?
   ii.   Write rhyming words used in the stanza.
   iii.   Which figure of speech is used in the last line?
   iv.   What are the different natural objects discussed in the stanza?

Q.10 **Change the narration.** **(02)**
   i.   He said, " I love wild animals".
   ii.   My father advised me to work hard.

Q.11 **Do as directed:** **(03)**
   i.   It has been raining since morning.   (Change into interrogative)
   ii.   He goes to the mall.   (Change into negative)
   iii.   They do not come to the ground.   (Change into simple future tense)

Section – C
Marks: 24

Q.12 **Translate the following into Urdu.** **(4+4)**
a.   My city is very beautiful. It has gigantic buildings. These buildings look very attractive at night. The government is planning to make them environment friendly.
b.   i.   Will your father visit us?
       ii.   Were you using his mobile phone?
       iii.   I cannot help you in this matter.
       iv.   We take rest after work.

Q.13 **Write an essay of 250 words on any one of the following topics.** **(10)**
   i.   My Ideal Teacher.   ii.   Sports

Q.14 Write a dialogue of at least 12 lines between two friends about the internet. **(06)**

OR

Translate the following sentences into English.

ہم ورزش کے بعد نہاتے ہیں۔	(۲)	کیا وقت ہوا ہے؟	(۱)
وہ سکول نہیں گئے۔	(۴)	اس نے کل چوہا مارا۔	(۳)
صبح سے بارش ہو رہی ہے۔	(۶)	کیا تم اپنا وقت ضائع کرتے ہو؟	(۵)

PR IX (A-I-B4) 25
ENGLISH (New)
9th (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B   Marks: 36

Answer any SIX questions from Question No.1 to Question No.8 of section B. The rest of questions in the paper are compulsory.

Q.1   What does the tolerance of Hazrat Muhammad's رسول اللہ خاتم النبیین صلی اللہ علیہ والہ وسلم teach us?   (3)

Q.2   Write the main idea of the lesson 'Iqbal's Message to Youth'?   (3)

Q.3   Why did the crowd roar in one voice "Pakistan Zindabad"?   (3)

Q.4   How were the thieves treated by Nasiruddin?   (3)

Q.5   Service to humanity is liked by Allah. Elaborate in three sentences, in the light of the poem Abou Ben Adhem.   (3)

Q.6   What is the setting of the story 'The Fantastic Shoemaker'?   (3)

Q.7   Pick out Pronouns from the given list: mine, How, from, us, may, hers   (3)

Q.8   Rearrange the words in correct order to make meaningful sentences.   (3)
(i)   thieves the arrested police the.   (ii)   play going are to we.
(iii)   and meat cat the drinks eats milk.

Q.9   **Paraphrase ONE of the following stanzas.**   (5)

a.   The angel wrote, and vanished. The next night   b.   And sweetest in the gale is heard;
It came again with a great wakening light,   And sore must be the storm
And showed the names whom love of God had blest,   That could abash the little bird
And lo! Ben Adhem's name led all the rest.   That kept so many warm.

Q.10   **Read the stanza carefully and answer the questions given at the end.**   (8)

And sweetest in the gale is heard;
And sore must be the storm
That could abash the little bird
That kept so many warm.

Questions.
i.   What is the title of the poem?
ii.   What is meant by the word "sore"?
iii.   What can the storm do?
iv.   What does the word 'that' refer to in the last line?

Q.11   **Read the passage carefully and answer the questions given at the end.**   (5)

Nasiruddin requested a friend named Jalal to accompany him on a journey. "Only on one condition", said Jalal "that you lend me your cloak because mine is worn out". Nasiruddin gave a new and very fine cloak to Jalal. On the way Nasiruddin met another friend and said to him, "Sir, meet my friend Jalal. The cloak that he is wearing is mine". When the friend had left, Jalal protested, "Why did you tell that man that the cloak was yours?" Nasiruddin promised that he would not repeat the mistake.

Questions:
i.   Why did Jalal ask for the cloak?
ii.   How was the given cloak?
iii.   Why did Jalal protest?
iv.   What did Nasiruddin promise?
v.   What is meant by the word 'accompany'?

Section – C   Marks: 24

Q.12   **Translate the following into Urdu.**   (3+3)
a.   Education is the backbone of a nation. No nation can progress without education. That is why we have to realize its importance.
b.   i.   Time and tide wait for none.
ii.   Most of the people of our village were once illiterate.
iii.   He was working hard for success.

Q.13   Write an application to your principal / head master / head mistress for fine-remission.   (6)

OR

Write a letter to your cousin congratulating him on his success in examination.

Q.14   Develop a story with the help of the following outlines.   (6)
........a dog........piece of meat........bridge........saw his reflection.........thought as another dog........having piece of meat........barked.........piece of meat fell down.

Q.15   Translate the following sentences into English.   (6)

(۲) تم کیا کر رہے تھے؟   (۱) آنکھ اوجل پہاڑ اوجل

(۴) مجھے پاکستان سے پیار ہے۔   (۳) تین دن سے وہ نہیں آ رہی ہے۔

(۶) دروازہ نہ کھولو۔   (۵) وہ بازار جائے گا۔