O.P. JINDAL SCHOOL, RAIGARH

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RAIGARH (CG)
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VACATION HOME WORK

CLASS - X

THE RISE OF NATIONALISM IN EUROPE

1 Sate any two features of the utopian vision depicted by Frédéric Sorrieu in 1848.

2 Discuss any three key developments in 19th-century Europe that fuelled the spread of nationalist feeling among its people.

3 The unification of Germany was a result diplomacy and wars/ Discuss with reference to Bismarck's role and the wars of unification.

4 **Read the following source and answer the questions that follow:**

The Aristocracy and the New Middle Class Socially and politically, a landed aristocracy was the dominant class on the continent. The members of this class were united by a common way of life that cut across regional divisions.

They owned

estates in the countryside and also townhouses.

They spoke French for purposes of diplomacy and in high society. Their families were often connected by ties of marriage. This powerful aristocracy was, however, numerically a small group. The majority of the population was made up of the peasantry. To the west, the bulk of the land was farmed by tenants and small owners, while in Eastern and Central Europe the pattern of landholding was characterised by vast estates which were cultivated by serfs.

1.Which class socially and dominant on the European continent politically

II. How were members of the landed aristocracy united despite regional differences?

III. How was landholding different in Western Europe compared to Eastern and Central

NATIONALISM IN INDIA

1 Give three reasons why the Salt March transformed from a simple protest into a nationwide movement against British rule.

2 The participation of women and peasants gave a new dimension to the National Movement. Justify with three points.

3 Assess the impact of the Civil Disobedience Movement on different social groups (industrialists, peasants, business communities, women).

4 **Read the following source and answer the questions that follow:**

The Independence Day Pledge, 26 January 1930

"We believe that it is the inalienable right of the Indian people, as of any other people, to have freedom and to enjoy the fruits of their toil and have the necessities of life, so that they may have full opportunities of growth. We believe also that if any government deprives a people of these rights and oppresses them, the people have a further right to alter it or to abolish it. The British Government in India has not only deprived the Indian people of their freedom but has based itself on the exploitation of the masses, and has ruined India economically, politically, culturally and spiritually.

We believe, therefore, that India must sever the British connection and attain Furna Swaraj or Complete Independence.'

I. According to the passage, what is considered the inalienable right of the Indian people?

Il. On what grounds does the passage criticise the British Government in India?

III. What solution does the passage propose for India's situation under British rule?

THE MAKING OF GLOBAL WORLD

1 Mention any two effects of European conquest on indigenous people in the Americas.

2 How did the introduction of new crops such as potato and maize alter European
society and economy? Give three points.

3 Evaluate how global trade patterns changed from the pre-modern world to the early 19th century, with examples of trade routes and commodities.

4 **Read the following source and answer the questions that follow:**

The silk routes are a good example of vibrant premodern trade and cultural links between distant parts of the world. The name 'silk routes' points to the importance of West-bound Chinese silk cargoes along this route. Historians have identified several silk routes, over land and by sea, knitting together vast regions of Asia, and linking Asia with Europe and northern Africa. They are known to have existed since before the Christian Era and thrived almost till the fifteenth century. But Chinese pottery also travelled the same route, as did textiles and spices from India and Southeast Asia. In return, precious metals-gold and silver-flowed from Europe to Asia.

Trade and cultural exchange always went hand in hand. Early Christian missionaries almost certainly travelled this route to Asia, as did early Muslim preachers a few centuries later. Much before all this, Buddhism emerged from eastern India and spread in several directions through intersecting points on the silk routes.

I. Why were the trade routes between Asia, Europe and northern Africa called the silk routes'?

Il. Besides silk, what other goods were traded along the silk routes?

IlL. How did the silk routes contribute to cultural exchange?

THE PRINT CULTURE AND THE MODERN WORLD

1   List any two reasons for the popularity of novels and newspapers in 19Cc India ?
2   Highlight three major differences between manuscripts and printed books in terms production, reach, and accuracy."
3   'Print culture created conditions for the French Revolution. Explain the statement with arguments

4   **Read the following source and answer the questions that follow:**

Life of the Workers
The abundance of labour in the market affected the lives of workers. As news of possible jobs travelled to the countryside, hundreds tramped to the cities The actual possibility of getting a job depended on existing networks of friendship and kin relations, If you had a relative or a friend in a factory, you were more likely to get a job quickly, But not everyone had social connections. Many jobseekers had to wait weeks, spending nights under bridges or in night shelters. Some stayed in Night Refuges that were set up by private individuals; others went to the Casual Wards maintained by the Poor Law authorities Seasonality of work in many industries meant prolonged periods without work. After the busy season was over, the poor were on the streets again.

Some returned to the countryside after the winter, when the demand for labour in the rural areas opened up in places. But most looked for odd jobs, which till the mid-nineteenth century were difficult to find.

L.What role did social connections play in getting jobs for workers in the cities?

II. How did seasonality of work affect Industrial labours ?

III. Where did unemployed jobseekers stay while searching for jobs in the cities ?

DEMOCRATIC POLITICS - II

POWER SHARING

1   State any two forms of power-sharing in modern democracies.
2   Compare majoritarianism in Sri Lanka with the Belgian model on any three points.
3   Evaluate the strengths and limitations of power- sharing, as a method to address social divisions, with reference to Belgium and Sri Lanka.
4   **Read the following source and answer the questions**
We need to give more power to the panchayats to realise the dream of Mahatma Gandhi and the expeditions of the makers of our Constitution Panchayati Raj establishes a true republic restores power to the only place where power belongs in a democracy-in the hands of the people. Giving power to Panchayats is also a way to reduce corruption and increase administrative efficiency. When people participate in the planning and implementation of developmental schemes they would naturally exercise greater control over these schemes. This would eliminate the corrup middlemen. Thus, Panchayati Raj will strengthen the foundations of our republic.

I. According to the passage, how does Panchayati Raj help in reducing corruption?

11. How does Panchayati Raj strengthen the foundations of a republic?
111. Why did Mahatma Gandhi support giving more power to Panchayats ?

FEDERALISM

1 Indian federalism can be characterised by certain features. Write any two."
2 Explain with examples how decentralisation has strengthened democracy in India.
3 Discuss the division of powers under the Indian federal system.How do residual powers and financial relations shape Centre-State dynamics? [5]
4 **Read the following source and answer the questions that follow:**

The exact balance of power between the central and the state government varies from one federation to another. This balance depends mainly on the historical context in which the federation was formed.
There are two kinds of routes through which federations have been formed.
The first route involves independent states coming together on their own to form a bigger unit, so that by pooling sovereignty and retaining identity, they can increase their security. This type of coming together' federations include the USA, Switzerland and Australia. In this first category of federations, all the constituent states usually have equal power and are strong vis-à-vis the federal government.

I. What factors influence the balance of power between the central and state governments in a federation?
II. Give two examples of countries with coming together federations.
IIL. What is meant by a 'coming together federation?

GENDER RELIGION AND CASTE

1 In India, the proportion of women in legislature has been very low. State the reasons.
2 Analyse any three ways in which caste continues to influence Indian politics.
3 'Religious differences need not lead to conflict in a democracy. Examine with reference to Indian examples and constitutional safeguards.
4 **Read the following source and answer the questions that follows.**

Caste Inequality Today
Caste is an important source of economic inequality because it regulates access to resources of various kinds.
For example, in the past, the so-called' untouchable castes were denied the right to own land, while only the so-called 'twice born' castes had the right to education. Although this kind of explicit and formalised inequality based on caste is now outlawed, the effects of centuries of accumulated advantages and disadvantages continue to be felt Moreover, new kinds of inequalities have also
developed. The relationship between caste and economic status has certainly changed a lot. Today, it is possible to find very rich and very poor people in every caste, whether "low' or 'high. This was not true even twenty or thirty years ago-it was very rare indeed to find rich people among the lowest' castes. However, as this evidence from the National Sample Survey shows, caste continues to be very strongly linked to economic status.

I. Why is caste considered an important source of economic inequality?
II. How has the relationship between caste and economic status changed over the last 20-30 years?
III. Why does caste continue to influence economic status even though caste-based discrimination is now illegal?

POLITICAL PARTIES

1 Mention two ways political parties contribute to governance and representation.

2 Describe three Institutional reforms that can improve the internal democracy of political parties in India.
3 Critically examine the challenges faced by political parties in India and propose reforms for transparency and internal democracy.
 Read the following source and answer the questions that follow:

Political parties are easily one of the most visible institutions in a democracy.
For most ordinary citizens, democracy is equal to political parties. If you travel to remote parts of our country and speak to the less educated citizens, you could come across people who may not know anything about our Constitution or about the nature of our government. But chances are that they would know something about our political parties. At the same time, this visibility does not mean popularity. Most people tend to be very critical of political parties They tend to blame parties for all that is wrong with our democracy and our political life. Parties have become identified with social and political divisions. Therefore, it is natural to ask-do we need political parties at all? About a hundred years ago, there were few countries of the world that had political party. Now there are few that do not have parties. Why did political parties become so omnipresent in democracies all over the world?

1. Why are political parties considered the most visible institutions in a democracy?
II. Why do people tend to be critical of political parties?
III. How did political parties become omnipresent in democracies worldwide?

OUTCOMES OF DEMOCRACY

1   How does a democratic system safeguard individual dignity and personal freedom?
2   Democracy is not a guarantee of economic development Explain with three arguments.
3   Assess the outcomes of democracy with respect to accountability, transparency, social justice and accommodation of diversity. Use examples

SUBJECT - GEOGRAPHY

1) Examine the major causes of land degradation in India and assess their impact on soil fertility.
2) Evaluate the significance of sustainable development in the long-term utilisation of natural resources
3) Analyse the role of local communities in the conservation of forests and wildlife in India.
4) Analyse the social, economic and environmental issues associated with large multipurpose river valley projects.
5) "Multipurpose river projects have contributed to development but have also generated serious environmental and social concerns." Substantiate the statement.
6) Analyse the major causes responsible for the growing water scarcity in India. Suggest suitable measures for its sustainable management.
7) Analyse the salient features of Indian agriculture and examine their impact on the socio-economic life of the country.
8) Evaluate the role of the government in improving agricultural infrastructure and farmers' welfare
9) Rajeev is willing to establish a mineral based industry. Advise him an ideal state/region to set up an iron steel industry. Analyse the possible reasons behind the advice given to him to make a profitable venture.
10) Evaluate the role of non-conventional sources of energy in ensuring sustainable development in India.
11) Examine why biogas is considered an ideal source of energy for rural India (Give five reasons based on availability, cost-effectiveness, environment, and agricultural benefits.)
12) Examine the importance of manufacturing industries in the economic development of India.
13) Evaluate the causes of industrial pollution in India and suggest three effective measures to control it.

SUBJECT - ECONOMICS

1) A state shows high per capita income but poor health indicators. Analyse the situation and suggest reasons for this imbalance.
2) In what ways can governmental intervention stimulate employment generation in rural regions? Explain three measures.

OR

   a) Evaluate the role of the government in promoting employment generation across different sectors.

3) Examine the reasons for the rising importance of the tertiary sector in India.
4) How does the lack of accessibility to formal banking services reinforce the reliance on informal moneylenders? State any three reasons.
5) Examine the role of formal credit institutions in reducing dependence on moneylenders in rural India.
6) Analyse how the terms of credit influence the borrower's economic condition.
7) Evaluate the importance of expanding formal sources of credit for inclusive growth in India.
8) Analyse the role of Self-Help Groups in providing credit to rural households.
9) "Globalisation has produced mixed outcomes for developing countries like India." Substantiate the statement by highlighting both positive and adverse consequences for producers, workers and consumers.
10) In the industrial region of Vasantnagar, a large automobile factory operates in the organized sector, offering fixed wages and social security benefits. However, hundreds of small workshops and repair units have grown around it, employing workers without written agreements. A government labour report highlights the need to formalize working conditions to ensure workers' welfare.
   a) Drawing on the case of Vasantnagar, analyse the sharp contrast between organized and unorganized sector of employment. Also, discuss why expanding the organized sector is essential for improving the quality of employment in India.

OR
   b) Explain the problems related to income, job security and working conditions in the unorganized sector. Why do many workers still prefer to work in this sector?

SUBJECT – PHYSICS

MCQ: (1 Mark each)

1. A parallel beam of light is incident on a concave mirror and after reflection it converges at a point in front of the mirror. That point is called:
   a) Centre of curvature   b) Pole
   c) Principal focus   d) Aperture

2. The refractive index of glass with respect to air is 1.5. This means:
   a) Light travels 1.5 times faster in glass than in air
   b) Light travels 1.5 times slower in glass than in air
   c) Speed of light is same in glass and air
   d) Glass does not refract light

3. A ray of light passing through the optical centre of a convex lens:
   a) Deviates towards the principal axis
   b) Deviates away from the principal axis
   c) Emerges parallel to principal axis
   d) Passes undeviated

4. The defect of vision in which a person can see nearby objects clearly but not distant objects is:
   a) Hypermetropia   b) Myopia
   c) Presbyopia   d) Astigmatism

5. The splitting of white light into its component colours when it passes through a prism is called:
   a) Refraction   b) Dispersion
   c) Scattering   d) Interference

6. The SI unit of electric current is:
   a) Volt   b) Ohm
   c) Ampere   d) Coulomb

7. A conductor has resistance R. If its length is doubled and area of cross-section is halved, its new resistance will be approximately:

a) R
b) 2R
c) 4R
d) 8R

8. A 10 Ω resistor is connected to a 2 V battery. The current flowing through the resistor is:
a) 0.1 A
b) 0.2 A
c) 5 A
d) 20 A

9. A straight conductor carrying current is placed perpendicular to magnetic field B. If length L is doubled and current halved, force on conductor becomes:
(a) Same   (b) Doubled
(c) Halved   (d) Quartered

10. The device used to protect an electric circuit from overloading is:
a) Ammeter
b) Rheostat
c) Fuse
d) Galvanometer

SUBJECT – CHEMISTRY

1. An aqueous solution of some salt turns red litmus blue. In order to reverse the colour change, which of the following reagent should be added in excess?
   (a) Dilute sulphuric acid.
   (b) Aqueous solution of ammonium chloride
   (c) Aqueous solution of washing soda
   (d) Aqueous solution of sodium acetate.

2. A powdered salt (X) in a dry test tube was heated that evolved brown fumes of nitrogen dioxide and a yellow residue of lead oxide is also formed. The salt (X) is
   1. $MgSO_3$
   2. $Pb(NO_3)_2$
   3. $(NH_4)_2SO_4$
   4. $CaCO_3$

3. Which among the following statements is correct for magnesium metal?
   (A) It burns in oxygen with a dazzling white flame.
   (B) It reacts with cold water to form magnesium oxide and evolves hydrogen gas.
   (C) It reacts with hot water to form magnesium oxide and evolves water vaour.
   (D) It reacts with steam to form magnesium oxide and evolves hydrogen gas.

4. The reaction between X and Y forms compound Z. X loses electrons and Y gains electrons. Compound Z:
   (a) is hard and brittle
   (b)) has low melting and boiling points
   (c) can conduct electricity in solid state.
   (d) is insoluble in water

5. Consider the following statements related to diamond and graphite:
   1. Both diamond and graphite are used as abrasives.
   2. Diamond and graphite have different arrangements of carbon atoms.
   3. The carbon atoms in graphite have a different number of neutrons from those in diamond.

4. The carbon atoms in both graphite and diamond have four single covalent bonds.
The incorrect statement(s) is/are:
   a) 1 and 3
   b) 2 and 4
   c) 1, 3 and 4
   d) All of these

Assertion - Reason

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 but R is true

5. Assertion: Carbon shows maximum catenation in the periodic table.
Reason- Carbon can not loose its 4 valence electrons.
6. Assertion: Iso- butane is the isomer of C_4H_{10}
Reason : 2-methyl propane is the isomer of butane.
7. A student was asked to identify an unsaturated hydrocarbon. Which among the following is correct among them?
   i. $CH_3-CH_2-CH_2-CH_3$
   ii. $CH_3-C=C-CH_3$
   iii. $CH_3-CH-CH_3$
   iv. $CH_3-C\equiv CH$
   The correct option is –
      a) 1 & 3   b) 2 & 4   c) 1 & 3   d) 3 & 4.
8. A teacher has given to student calcium chloride and asked to add in water. After adding it, she asked to add soap and record observation. The correct observation is –
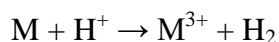   i.   Hard water forming scum with soap.
   ii. Soft water forming scum with soap due presence of sodium ion in water
   iii. Hard water forming scum with sodium salts in water.
   iv. Soft water forming scum with soap due to presence of calcium or magnesium ions in water.
9. The balanced chemical equation for the reaction has the co-efficient in the given
   Barium chloride + sodium sulphate → Barium sulphate + sodium chloride.
   i.   1,1,1,2
   ii. 2,1,1,1
   iii. 1,2,1,2
   iv. 2,1,2,1
10. A metal reacts with an acid according the equation:
       $M + H^+ \rightarrow M^{3+} + H_2$
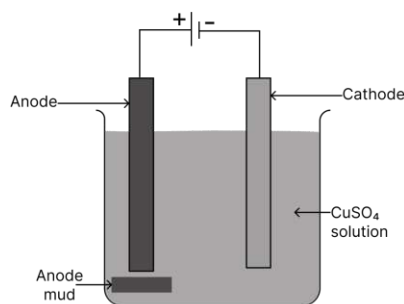   Which of the following is correct for metal M?
a) Calcium   b) Aluminiium   c) Barium   d) Potassium.
11. A solution of substance X is used for white washing.
   i.   Name the substance X and write its formula.
   ii. Write a balanced chemical equation of X named in (a) above with water.
12. The diagram below shows the electrolytic refining of copper.

(a) Identify the anode and cathode.
(b) What is the use of electrolyte?
(c) Where do impurities collect?
(d) Why is this process called refining?

13. a) Draw the structural formulas of ethanol and ethanoic acid .
    (b) Identify functional groups present.
    (c) Write a balanced chemical equation when ethanol is added to acetic acid.
14. (i) "Keerthi thinks that Substitution reaction occurs in saturated Hydrocarbons, on the contrary Krishi thinks, it occurs in unsaturated Hydrocarbons." Justify with valid reasoning whose thinking is correct.
(ii) . Draw the electron dot structure of the immediate lower homologue of Propane. Give any two characteristics of homologues of a given homologous series.
15. Why should lemon juice not be stored in metal containers?
16. Metal X reacts with dilute sulphuric acid but metal Y does not.
(a) Identify more reactive metal.
(b) Place X and Y in reactivity series.
17. A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound and write its chemical formula. Write the chemical equation for its preparation. Mention any one use of the compound
18. An organic compound 'X' is a liquid at room temperature. It is also a very good solvent and has the molecular formula C_2H_6O. on oxidation 'X' gives 'Y' which give, break effervescence on reacting with $NaHCO_3$. X reacts with Y in the presence of conc. H_2SO_4 to give another compound 'Z' which has a pleasant smell. Identify X, Y and Z. also write chemical equations to show the formation of Y and Z.
19.   The following observations were made by a student on treating four metals P, Q, R and S with the given salt solutions

Sample	$MgSO_4(aq)$	$Zn(NO_3)_2(aq)$	$CaSO_4(aq)$	$Na_2SO_4(aq)$
P	No reaction	Reaction occurs	Reaction occurs	No reaction
Q	Reaction occurs	Reaction occurs	Reaction occurs	Reaction occurs
R	No Reaction	Reaction Occurs	No Reaction	No Reaction
S	No Reaction	No Reaction	No Reaction	No Reaction

Based on the above observations:
(a) Arrange the given samples in the increasing order of reactivity

(b) Write the chemical formulae of products formed when Q reacts with $CuSO_4$ solution

20. 'A' & 'B' are sodium salts of long-chain carboxylic acid and long chain Sulphonic acid respectively. Which one of A or B will you prefer as a cleansing agent while using underground water (hand pump water)? Give the reason for your answer.

21. Elaborate on the process of cleansing action. Illustrate micelle with the help of labelled diagram.

Assertion – Reason: (1 Mark each)

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 but R is true

11. Assertion (A): A ray of light passing through the centre of curvature of a concave mirror is reflected back along the same path.
    Reason (R): The centre of curvature lies on the principal axis of the mirror.

12. Assertion (A): A light ray travelling from air to glass bends towards the normal at the interface.
    Reason (R): The speed of light in glass is less than that in air.

13. Assertion (A): A myopic person uses a concave lens to correct the defect.
    Reason (R): A concave lens diverges the light rays so that the image is formed on the retina.

Subjective: (3 Marks each)

14. A convex lens of focal length 20 cm forms a real image which is 3 times magnified and inverted.
    (i) Find the object distance. (1)
    (ii) Calculate the image distance. (1)
    (iii) Draw a ray diagram to show the formation of the image. (1)

15. Explain why a convex mirror is preferred as a rear-view mirror in vehicles over a plane mirror. Derive the mirror formula for a spherical mirror. (2+1)

16. Define power of accommodation of the human eye. A person with hypermetropia has a near point of 50 cm instead of 25 cm. What focal length lens should be used to correct this defect for reading at 25 cm? (1+2)

17. State the cause of the 'twinkling of stars'. Why do planets not twinkle? Explain the phenomenon of dispersion of light with a diagram. (1+1+1)

18. Three resistors of 2 Ω, 3 Ω and 6 Ω are connected in parallel to a 12 V battery.
    (i) Find the equivalent resistance and total current. (2)
    (ii) Calculate the current through the 3 Ω resistor. (1)

19. Derive the expression for electric power P containing V and R. A bulb is rated 60 W, 220 V. Find its resistance and the current drawn when connected to 220 V supply. (1+1+1)

20. Explain Joule's law of heating. Why does the temperature of a conductor increase when current flows through it? If a heater coil draws 10 A on 220 V, find the heat produced in 5 minutes. (2+1)

21. State Fleming's left-hand rule. A straight conductor 0.5 m long carries 5 A current and is placed perpendicular to a 0.2 T magnetic field. Calculate the force experienced by it. (1+2)

22. Draw the magnetic field lines around a current-carrying straight conductor. Explain why two parallel current-carrying conductors attract each other if currents are in the same direction. (1+1+1)

23. Draw the magnetic field pattern as produced by a solenoid. In what way this field is different from that produced by a bar magnet? (1.5 +1.5)

SUBJECT – BIOLOGY

Q1. Choose the incorrect pair:
  a) Ultrafiltration-Glomerulus   b) Concentration of urine-Collecting duct
  b) Transport of urine-Ureter   d) Storage of urine-Urinary bladder

Q2. Which one of the following is also known as antidiuretic hormone?
  a) Oxytocin   b) Vasopressin   c) Adrenaline   d) Calcitonin

Q3. Which region of the alimentary canal absorbs the digested food?
  a) Stomach   b) Small intestine   c) Large intestine   d) Liver

Q4. Carefully study the diagram of the human respiratory system with labels A, B, C and D. Select the option which gives correct identification and main function and /or characteristic.
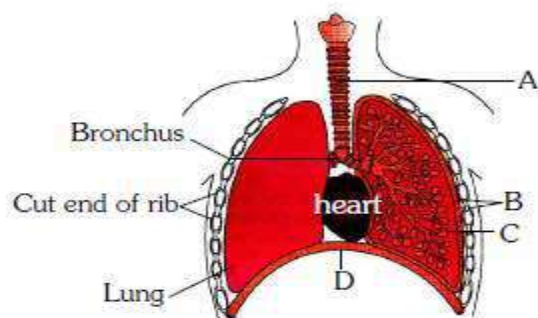
a) (A) Trachea: It is supported by bony rings for conducting inspired air.
b) (B) Ribs: When we breathe out, ribs are lifted.
c) (C) Alveoli: Thin-walled sac like structures for exchange of gases.
d) (D) Diaphragm: It is pulled up when we breathe in.

Q5. In which of the following groups of organisms, blood flows through the heart only once during one cycle of passage through the body?
a) Rabbit, Parrot, Turtle   b) Frog, crocodile, Pigeon
c) Whale, Labeo, Penguin   d) Shark, dog fish, sting ray

Q6. A heterozygous red-eyed female Drosophila mated with a white-eyed male would produce
a) red-eyed females and white-eyed males in the F_1
b) white-eyed females and red-eyed males in the F_1
c) half red and half white-eyed females and all white eyed males in the F_1
d) half red and half white-eyed females as well as males in the F_1.

Q7. When a breed of cattle with red coats is crossed with the same breed with white coats, all the off spring have coats with a mixture of red and white hairs, a condition called roan.
If roan cows were crossed with a red-coated bull, the theoretical ratio of the offspring would be
a) all red   b) all roan   c) 1 red : 1 roan   d) 3 red : 1 roan

Q8. CO_2 absorbs some of the that radiates from the surface of earth to space
a) ozone   b) heat   c) food web   d) producer

Q9. Budding and fission are processes used by
a) diocious species
b) hermaphroditic organisms
c) organisms requiring new gene combinations for each generation
d) asexually reproducing species

Q10. Growth of pollen tube towards ovule during fertilisation is an example of
a) phototropism   b) geotropism   c) chemotropism   d) hydrotropism

Q11. Compare between the structure and function of Artery and vein.

Q12. Draw human excretory system and mention the role of its each part.

Q13. How do plants excrete? Explain.

Q14. Write the role of the following hormone –

i) Insulin   ii) Adrenalin   iii) Thyroxine   iv) Estrogen   v) Testosterone   vi) Releasing hormone vii) Growth hormone.

Q15. Draw a neuron and mention the role of various parts of it.

Q16. Write the role of the following parts of a brain –

i) Cerebrum   ii) Cerebellum   iii) Medulla oblongata   iv) Olfactory lobes.

Q17. Write the path followed by the air during inhalation in human respiratory system.

Q18. How is tropic movement different from nastic movement? Give examples of each.

Q19. Write the role of the following plant hormones – Auxin, Gibberellins, Cytokinin and Abscisic acid.

Q20. A) Explain Sex determination in humans with the help of a flow chart.

B) Give examples where the sex of animals is not determined by chromosome.

SUBJECT – MATHS

Q1   Prove that $3 + 5\sqrt{2}$ is an irrational number.

Q2   Show that 4^n can never end with the digit zero for any natural number n.

Q3   Explain $5 \times 4 \times 3 \times 2 \times 1 + 3$ is a composite number.

Q4   Prove that $\frac{7}{4} + \sqrt{5}$ is an irrational number.

Q5   Prove that $\sqrt{3} + \sqrt{5}$ is an irrational number.

Q6   Find the LCM and HCF of 518 and 875 by the prime factorization method.

Q7   Find the largest number that will divide 398, 436 and 542 leaving remainder 7, 11 and 15 respectively .

Q8   For what value of k, (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$?

Q9   If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4, find the value of 'a'.

Q10   If α and β are the zeroes of the quadratic polynomial $p(x) = x^2 - (k + 6)x + 2(2k - 1)$, then find the value of k, if $\alpha + \beta = \frac{1}{2}\alpha\beta$.

Q11   The ages of two girls are in the ratio $5 : 7$. Eight years ago, their ages were in the ratio $7 : 13$. Find their present ages.

Q12   A part of monthly hostel charges in a college are fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days, he has to pay Rs. 1000 as hostel charges where as a student B, who takes food for 26 days, pays Rs. 1180 as hostel charges. Find the fixed charge and the cost of food per day.

Q13   Solve for x and y: $47x + 31y = 63$; $31x + 47y = 15$

Q14   Find the value of k for which the following pair of linear equations have infinitely many solutions: $2x + 3y = 7$; $(k - 1)x + (k + 2)y = 3k$.

Q15   The sum of the numerator and the denominator of a fraction is 8. If 3 is added to both the numerator and the denominator, the fraction becomes $\frac{3}{4}$. Find the fraction.

Q16   The sum of the digit of a two digit number is 12. The number obtained by interchanging the two digits exceeds the given number by 18. Find the number.

Q17   A fraction becomes $\frac{1}{2}$ when 1 is added to the numerator and it becomes $\frac{1}{3}$ when 1 is subtracted from the numerator and 2 is added to the denominator. Find the fraction. Also find the number obtained when 5 is added to numerator and 4 is subtracted from the denominator.

Q18   Find the value of c for which the quadratic equation $4x^2 - 2(c + 1)x + (c + 4) = 0$ has equal roots.

Q19   Find two consecutive numbers, whose square have sum 85.

Q20   If α, β are the roots of the equation $kx^2 + 4x - 4 = 0$ such that $\alpha^2 + \beta^2 = 24$, find the value of k.

Q21   Using quadratic formula, solve the following quadratic equation for x: $p^2x^2 + (p^2 - q^2)x - q^2 = 0$.

Q22   Find the roots of the following equation: $\frac{1}{x+4} - \frac{1}{x-7} = \frac{11}{30}$; $x \neq -4, 7$

Q23   The sum of the areas of two squares is $640\ m^2$. If the difference in their perimeters be 64 m, find the sides of the two squares.

Q24   Find the discriminant of the quadratic equation: $3\sqrt{3}x^2 + 10x + \sqrt{3} = 0$

Q25   Find 10th term from end of the A.P. 4, 9, 14, ... 254.

Q26   Find the number of terms of the A.P. 54, 51, 48 ... so that their sum is 513.

Q27   The 5th term of an Arithmetic Progression (A.P.) is 26 and the 10th term is 51. Determine the 15th term of the A.P.

Q28   Which term of the A.P. 72, 68, 64, 60, … is zero?

Q30   Which term of the A.P. 3, 15, 27, 39, … will be 120 more than its 21st term?

Q31   The sum of the first 7 terms of an A. P. is 63 and the sum of its next 7 terms is 161. Find the 28th term of this A.P.

Q32   In the given figure, PA, QB and RC are each perpendicular to AC, prove that $\dfrac{1}{x} + \dfrac{1}{z} = \dfrac{1}{y}$.
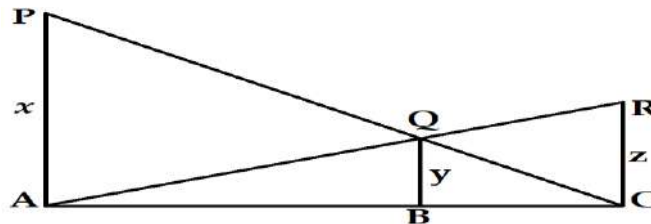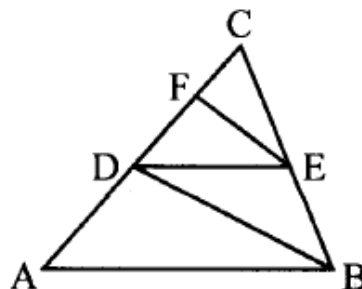

Q33   In the figure, AB is parallel to CD. If $OA = 3x - 19$, $OB = x - 4$, $OC = x - 3$ and   OD = 4, determine x.
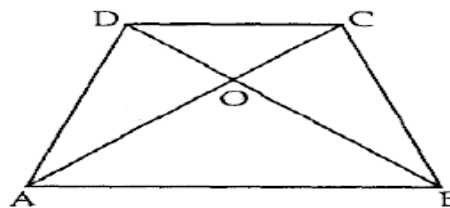
Q34   In figure, ABCD is a trapezium in which $AB \parallel DC$. The diagonals AC and BD intersect at O. Prove that $\dfrac{AO}{OC} = \dfrac{BO}{DO}$.
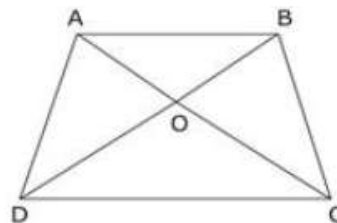
Q35   D is any point on the side BC of a $\Delta\ ABC$ such that $\angle ADC = \angle BAC$. Prove that $CA^2 = BC.CD$.

Q36   In figure, $DE \parallel AB$ and $FE \parallel DB$. Prove that $DC^2 = CF \times AC$.

Q37   Find the ratio in which the line segment joining $(2, -3)$ and $(5, 6)$ is divided by x-axis.

Q38   Find a point on x-axis which is equidistant from the points (7, 6) and (- 3, 4).

Q39   The line joining the points (2, 1) and $(5, -8)$ is trisected at the points P and Q. If point P lies on the line $2x - y + k = 0$, find the value of k.

Q40   In what ratio does the line $x - y - 2 = 0$ divides the line segment joining $(3, -1)$ and $(8, 9)$?

Q41   Find the coordinates of a point P, which lies on the line segment joining the points $A(-2, -2)$ and

$B(2, -4)$ such that $AP = \frac{3}{7}AB$.

Q42 Find the value of k, if the point $P(2, 4)$ is equidistant from the points $A(5, k)$ and $B(k, 7)$.

Q43 Show that: $\quad \dfrac{\csc\theta + \cot\theta}{\csc\theta - \cot\theta} = 1 + 2\cot^2\theta + 2\csc\theta\cot\theta.$

Q44 Prove that: $\quad \dfrac{\tan A + \sec A - 1}{\tan A - \sec A + 1} = \dfrac{1 + \sin A}{\cos A}$

Q45 If $\cos^2\theta - \sin^2\theta = \tan^2\phi$, prove that $\cos\phi = \dfrac{1}{\sqrt{2}\cos\theta}$.

Q46 Show that :
$$\left(1 + \frac{1}{\tan^2\theta}\right)\left(1 + \frac{1}{\cot^2\theta}\right) = \frac{1}{\sin^2\theta - \sin^4\theta}.$$

Q47 If $\tan A = \dfrac{5}{12}$, find the value of $(\sin A + \cos A)\sec A$.

Q48 Simplify:
$$\frac{\sin^3\theta + \cot^3\theta}{\sin\theta + \cos\theta} + \sin\theta\cos\theta.$$

Q49 An aeroplane, when 3000 high, passes vertically above another aeroplane at an instant when the angles of elevation of the two aeroplanes from the same point on the ground are 60° and 45° respectively. Find the vertical distance between the two aeroplanes.

Q50 From a building 60 metres high the angles of depression of the top and bottom of a lamppost are 30° and 60° respectively. Find the distance between the lamppost and building. Also find the difference of height between building and lamppost.

Q51 A man standing on the deck of a ship, which is 10 m above the water level, observes the angle of elevation of the top of a hill as 60° and the angle of depression of the base of the hill as 30°. Calculate the distance of the hill from the ship and the height of the hill.

Q52 The angle of elevation of an aeroplane from a point A on the ground is 60°. After a flight of 30 seconds, the angle of elevation changes to 30°. If the plane is flying at a constant height of $3600\sqrt{3}$ m, find the speed, in km/hour, of the plane.

Q53 From the top of a 7 m high building, the angle of elevation of the top of a tower is 60° and the angle of depression of the foot of the tower is 30°. Find the height of the tower.

Q54 Two ships are approaching a light-house from opposite directions. The angles of depression of the two ships from the top of the light-house are 30° and 45°. If the distance between the two ships is 100 m, find the height of the light-house. [Use $\sqrt{3} = 1.732$]

Q55 A circle touches the side BC of $\triangle ABC$, at P and touch AB and AC produced at Q and R respectively. Prove that $AQ = \frac{1}{2}(Perimeter\ of\ \triangle ABC)$.
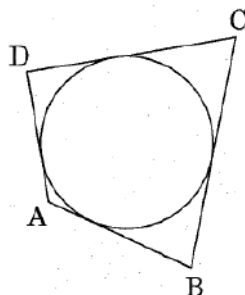
Q56 In figure, XP and XQ are two tangents to a circle with centre O from a point X outside the circle. ARB is tangent to circle at R. Prove that $XA + AR = XB + BR$.
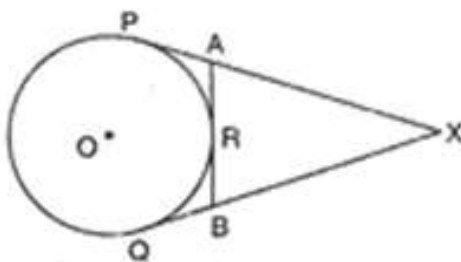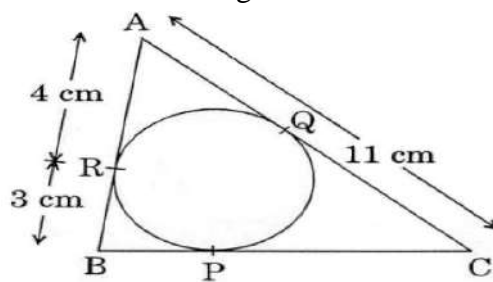

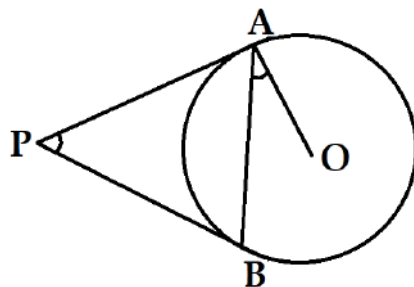Q57 In figure, a circle touches all the four sides of a quadrilateral ABCD where sides $\qquad$ AB = 6 cm, BC = 7 cm and CD = 4 cm. Find the length of side AD.

Q58 In figure, ΔABC is circumscribing a circle. Find the length of BC.

Q59 Two tangents PA and PB are drawn to a circle with centre O from an external point P. Prove that $\angle APB = 2 \angle OAB$.

Q60 If the diameter of a semicircular protractor is 14 cm, then find its perimeter.

Q61 Find the area of a quadrant of a circle, where the circumference of circle is 44 cm. $\left[Use\ \pi = \frac{22}{7}\right]$

Q62 The sum of the radius of the base and the height of a solid cylinder is 37 cm. if the total surface area of the solid cylinder is $1628\ cm^2$, find the volume of the cylinder.

Q63 A cylindrical tub of radius 5 cm and length 9.8 cm is full of water. A solid in the form of a right circular cone mounted on a hemisphere is immersed into the tub. If the radius of the hemisphere is 3.5 cm and height of cone outside the hemisphere is 5 cm, find the volume of water left in the tub. [Use $\pi = \frac{22}{7}$]

Q64 A toy is in the form of a cone mounted on a hemisphere of radius 3.5 cm. The total height of the toy is 15.5 cm. Find the total surface area of the toy. [Use $\pi = \frac{22}{7}$]

Q65 A toy is in the form of a cone mounted on a hemisphere of common base radius 7 cm. The total height of the toy is 31 cm. Find the total surface area of the toy. [Use $\pi = \frac{22}{7}$]

Q66 The surface area of a sphere is $616\ cm^2$. Find its radius.

Q67 Find the mean, median and mode of the following frequency distribution:

Class Interval	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100	100 - 120
Frequency	20	35	52	44	38	31

Q68 Find the value of p if mean of the following distribution is 7.5:

x	3	5	7	9	11	13
y	6	8	15	p	8	4

Q69 The mean of the following frequency distribution is 57.6 and the sum of the observations is 50. Find the missing frequencies f_1 and f_2.

Class	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100	100 – 120
Frequency	7	f_1	12	f_2	8	5

Q70 Calculate the median for the following distribution:

| Marks obtained	Below 10	Below 20	Below 30	Below 40	Below 50	Below 60
No. of students	6	15	29	41	60	70

Q71   All the three face cards of spades are removed from a well-shuffled pack of 52 card. A card is then drawn at random from the remaining pack. Find the probability of getting (i) a black face card (ii) a queeen (iii) a black card.

Q72   A die is thrown once. Find the probability of getting (i) an even prime number (ii) a multiple of 3.

Q73   A bag contains tickets, numbered 11, 12, 13, …, 30. A ticket is taken out from the bag at random. Find the probability that the number on the drawn ticket (i) is a multiple of 7 (ii) is greater than 15 and a multiple of 5.

Q74   Two dice are thrown simultaneously. What is the probability that (i) 5 will not come up on either of them? (ii) 5 will come up on at least one? (iii) 5 will come up at both dice?

Q75   A box contains 90 discs, numbered from 1 to 90. If one disc is drawn at random from the box,find the probability that it bears a prime number less than 23.

Q76   Find the H.C.F and L.C.M of 480 and 720 using the Prime factorisation method.

Q77   Two dice are rolled together bearing numbers 4, 6, 7, 9, 11, 12. Find the probability that the product of numbers obtained is an odd number

Q78   How many positive three digit integers have the hundredths digit 8 and unit's digit 5? Find the probability of selecting one such number out of all three digit numbers.

Q79   Evaluate: $\dfrac{2sin^2 60^o - tan^2 30^o}{sec^2 45^o}$

Q80   Show that the points A(-5,6), B(3, 0) and C(9, 8) are the vertices of an isosceles triangle.

Q81   The sum of two numbers is 18 and the sum of their reciprocals is 9/40. Find the numbers.

Q82   If and β are zeroes of a polynomial $6x^2$ -5x+1 then form a quadratic polynomial whose zeroes are α^2 and β^2.

Q83   If cosθ + sinθ = 1 , then prove that cosθ - sinθ = ±1

Q84   The minute hand of a wall clock is 18 cm long. Find the area of the face of the clock described by the minute hand in 35 minutes.

Q85   AB is a chord of a circle centred at O such that ∠AOB=60˚. If OA = 14 cm

then find the area of the minor segment. (take √3 =1.73)
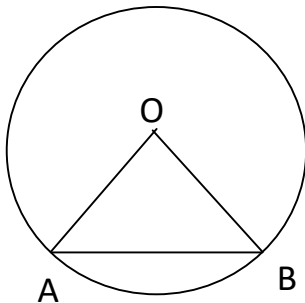
Q86   Prove that √3 is an irrational number.

Q87   Solve the following system of linear equations graphically:

        x + 2y = 3,   2x - 3y + 8 = 0

Q88   Places A and B are 180 km apart on a highway. One car starts from A and another from B at the same time. If the car travels in the same direction at different speeds, they meet in 9 hours. If they travel towards each other with the same speeds as before, they meet in an hour. What are the speeds of the two cars?

Q89   Prove that the lengths of tangents drawn from an external point to a circle are equal.

Using above result, find the length BC of ΔABC. Given that, a circle is inscribed in ΔABC touching the sides AB, BC and CA at R, P and Q respectively and AB= 10 cm, AQ= 7cm ,CQ= 5cm.
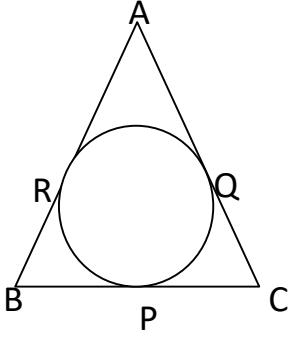
Q90 A boy whose eye level is 1.35 m from the ground, spots a balloon moving with the wind in a horizontal line at some height from the ground. The angle of elevation of the balloon from the eyes of the boy at an instant is 60°. After 12 seconds, the angle of elevation reduces to 30°. If the speed of the wind is 3m/s then find the height of the balloon from the ground. (Use √3_= 1.73)

SUBJECT – SANSKRIT

1. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत-

अन्यस्य जनस्य हिताय यत् कार्य चिन्तनं वा क्रियते तदेव परोपकारः भवति। मनुष्यस्य मध्ये प्रवृत्तिद्वयं दृश्यते एका स्वार्थस्य अपरा च परोपकारस्य। केचन जनाः-तादृशाः अपि सन्ति, ये स्वार्थं समीहन्ते न च परोपकारं कुर्वन्ति। ते जनाः अतीव अधन्याः समाजाय च अभिशापरूपाः एव। यस्य केवला स्वार्थबुद्धिः, सः राक्षसः इव सततम् आचरति। ततः वरतराः ते जनाः, ये यद्यपि सर्वात्मना आत्मं भरयः, परं ते परमुखापेक्षिणः न तिष्ठन्ति। यः खलु स्वार्थं सेवमानः परमार्थम् अपि चिन्तयति करोति च यशाशक्ति, सः एव पुरुषः प्रशस्यः।

अ.   एकपदेन उत्तरत-

(i) अन्यस्य जनस्य हिताय चिन्तनं किम् भवति?

(ii) मनुष्यस्य मध्ये कति प्रवृत्तिः ?

(iii) ये केवलं स्वार्थं समीहन्ते परोपकारं च न कुर्वन्ति, ते जनाः के भवन्ति?

आ.   पूर्णवाक्येन उत्तरत-

(i) यस्य केवला स्वार्थबुद्धिः भवति, सः कः इव आचरति?

(ii) कीदृशाः जनाः अधन्याः अभिशापरूपाः च सन्ति?

(iii) कः पुरुषः प्रशस्यः भवति ?

इ.   अस्य गद्यांशस्य उपयुक्तं शीर्षकं लिखत।

ई.   निर्देशानुसारं प्रदत्तविकल्पेभ्य उचितम् उत्तरं चित्वा लिखत। :

)i(‘पुरुषः प्रशस्यः’ इत्यनयोः पदयोः कः विशेष्यः?

) ii(‘परमार्थबुद्धिः’ इत्यस्य पदस्य कः विपर्ययः गद्यांशे आगतः?

) iii(‘निरन्तरम्’ इति पदस्य कृते गद्यांशे किं पदं प्रयुक्तम्   ?

2-अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत .

भारतस्य राजधानी दिल्ली प्राचीनं नाम इन्द्रप्रस्थम् आसीत्। :नाम्ना प्रसिद्धा अस्ति।   अस्या-'नवादिल्ली इति स्थाने केन्द्रीयप्रशासनस्य कार्यालया सन्ति।   तत्र :बहुभूमि कानि भवनानि विलसन्ति।   भारतस्य राष्ट्रपतिः, उपराष्ट्रपतिः, प्रधानमंत्री, अन्ये केन्द्रियमन्त्रिणनगरे एव निवसन्ति।   दिल्ली सर्वस्य -च दिल्ली :सांसदा : आकर्षणकेन्द्रम् अस्ति।   अत्र दूरदर्शनस्य अपि केन्द्रम् अस्ति।   अधुना संसारे या प्रगति :दृश्यते तस्या :

अपि प्रमुखं :दिग्दर्शनं दिल्लीनगरे भवति। दिल्ली शिक्षायाकेन्द्रं वर्तते। अत्र दिल्लीविश्वविद्यालय:, जवाहरलालनेहरूविश्वविद्यालय:, लालबहादुरशास्त्रिविद्यापीठं च सन्ति। दिल्लीनगर्या दर्शनीयस्थानेषु सर्वोच्चन्यायालय:, मेहरौलीस्तम्भ:, राष्ट्रपतिभवनं, संसद्भवनम्, अद्भुतालयं, जन्तुगृहं वायुयानआस्थानं-, अन्तर्राज्यीय :आस्थानम् रक्तदुर्गम् च सन्ति। दिल्ली राजधानीक्षेत्रस्य विधानसभाया-बस-केन्द्रम् अपि अस्ति। किं बहुना दिल्ली भारतस्य हृदयं वर्तते।

अ. एकपदेन उत्तरत-

(i(दिल्ल्या प्राचीनं नाम :किम् आसीत्?

(ii(दिल्ली कस्य आकर्षणकेन्द्रम् अस्ति?

(iii) कुत्र दूरदर्शनस्य केन्द्रम् अस्ति ?

आ. पूर्णवाक्येन उत्तरत -

(i(अत्र कानि दर्शनीय स्थानानि सन्ति?

(ii(के दिल्ली नगरे एव निवसन्ति?

(iii) भारतस्य हृदयं किं वर्तते?

इ. अस्य गद्यांशस्य उपयुक्तं शीर्षकं लिखत।

ई. निर्देशानुसारं प्रदत्तविकल्पेभ्य उचितम् उत्तरं चित्वा लिखत। :

(i('शोभन्ते' इत्यर्थे अत्र क: शब्द:प्रयुक्त :?

(ii('नवीनम्' इति पदस्य विलोमपदं लिखत।

(iii('भारतस्य हृदयं वर्तते'। अत्र वर्तते क्रियापदस्य कर्ता क:?

)iv('विख्याता' इत्यस्य पर्यायवाचिपदं किम्?

3.अधोलिखितम् अनुच्छेदं पठित्वा प्रदत्तप्रश्नानाम् उत्तराणि लिखत।

दुमाः वसुन्धरायाः अलङ्काराः सन्ति, ये आजीवनम् दूषितवायोः विषं पिबन्तिः, प्राणिभ्यः अमृततुल्यं शुद्धवायुम् च उत्सृजन्ति। एते उपकारिणः स्वयम् आतपे तिष्ठन्ति, ग्रीष्मतापेन तप्तेभ्यः श्रान्तेभ्यः च जनेभ्यः शीतलां छायां यच्छन्ति। भारतीयसंस्कृतौ वटवृक्षस्य अश्वत्थतरोः तुलसीपादपादीनां बहुमानः क्रियते। वटवृक्षस्य अधः उपविश्य गुरवः शिष्यान् उपदिशन्ति स्म। विविधैः फलैः प्रसूनैः च अलङ्कृताः महीरुहाणाम् विनताः शाखाः मानवेभ्यः विनम्रतायाः आचरणस्य सन्देशं यच्छन्ति। वृक्षाणाम् सङ्गे मनुष्याः अतीव शान्तिं विन्दन्ति। मनुष्याणाम् स्नेहस्पर्शेन च पादपाः सम्यक्रूपेण विकसन्ति। अतः अस्माभिः समयं प्राप्य वृक्षैः सह प्रकृतिमातुः अङ्के अवश्यमेव स्थातव्यम्| असंख्यजीवजन्तूनाम्आश्रयस्थलानि अनेकेषाम् खगानां नीडानि एते पुष्पिताः फलिनः च वृक्षाः स्थाने स्थाने रोपणीयाः रक्षणीयाः वर्धनीयाः च।

I. एकपदेन उत्तरत

(क) वसुन्धरायाः अलङ्काराः के सन्ति?

(ख) दुमाः प्राणिभ्यः कीदृशं वायुम् उत्सृजन्ति?

(ग)वृक्षाणाम् सङ्गे मनुष्याः किं विन्दन्ति ?

2.पूर्णवाक्येन उत्तरत।

(क) महीरूहाणां विनताः शाखाः मानवेभ्यः कस्य सन्देश यच्छन्ति?

(ख)पादपाः कथं सम्यक्रूपेण विकसन्ति ?

(ग) गुरवः कुत्र शिष्यान् उपदिशन्ति स्म ?

3.यथानिर्देशमुत्तरत

(i) अनुच्छेदे 'विकसन्ति' इति क्रियापदस्य कर्तृपदम् किम् ?

(ii) 'एते उपकारिणः' अत्र 'एते' सर्वनामपदम् केभ्यः प्रयुक्तम्?

(iii) 'पुष्पैः'इति अर्थे किम् पदम् अत्र प्रयुक्तम्?

(iv) 'एते पुष्पिताः फलिनः च वृक्षाः स्थाने स्थाने रोपणीयाः रक्षणीयाः वर्धनीयाः च।' अत्र विशेष्यपदम् किम्?

IV. अस्य अनुच्छेदस्य कृते समुचितं शीर्षक लिखत।

4. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानाम् उत्तराणि संस्कृतेन लिखत -

एकदा सर्वे पक्षिणः मिलित्वा उलूकं स्वाधिपतिं विधातुं विचारितवन्तः। तस्य अभिषेकवेलापि तैः निश्चिता । ततो यदा अभिषेकोत्सवः प्रारब्धः तदैव कश्चित् वायसः तत्रागच्छत् । उलूकस्याभिषेक-समाचारं श्रुत्वा सोऽवदत् -"भोः! किं विचार्य भवद्भिः एषः दिवान्धः उलूकः राजपदे प्रतिष्ठापयितुं निश्चितः ? यस्य देशस्य राजा एवम् अन्धो भविष्यति तस्य प्रजा अपि तथैव भविष्यति । किं न श्रुतं भवद्भिः - यथा राजा तथा प्रजा इति ।" ततः सर्वेऽपि तस्य परामर्श मत्वा यत्र तत्र प्रस्थिताः ।

कथैषा पुरातनी परम् अस्याः तात्पर्य तु अद्यापि अक्षरशः सत्यम्। लोकतान्त्रिकदेशेषु यथा राष्ट्रप्रमुखः सर्वकारो वा तथा तस्य देशस्य स्थितिः भवति। अतः राजपदे योग्यजनः एव प्रतिष्ठापयितव्यः । सम्प्रति यथा नेतारः तथा जनाः।

अ. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम)   (1x2=2)

(i) पक्षिणः कं स्वाधिपतिं विधातुम् उद्यताः?

ii) यदा अभिषेकोत्सवः प्रारब्धः तदा कः तत्रागच्छत्?

(iii) राजपदे कीदृशः जनः प्रतिष्ठापयितव्यः?

आ. पूर्णवाक्येन लिखत - (केवलं प्रश्नद्वयम)

                                    (2x2=4)

(i) वायसः तत्र कदा आगच्छत्?

(ii) वायसः उलूकस्य राजपदे प्रतिष्ठापनविषये किम् अवदत्?

(iii) लोकतान्त्रिकदेशेषु देशस्य कीदृशी स्थितिः भवति?

इ. अस्य अनुच्छेदस्य कृते उपयुक्तं शीर्षकं संस्कृतेन लिखत ।   (1)

ई. यथानिर्देशम् उत्तरत - (केवलं प्रश्नत्रयम)   (1x3=3)

(i) "काकः" इत्यस्य किं समानार्थकपदं गद्यांशे प्रयुक्तम्?

(ii) "आगच्छत्" इति क्रियायाः कर्तृपदं गद्यांशात् चित्वा लिखत ।

(iii) "नवीना" इत्यस्य विलोमपदं गद्यांशात् चित्वा लिखत ।

(iv) "दिवान्धः उलूकः" इत्यनयोः पदयोः विशेषणपदं किम्?

5. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत-

अस्माकं देशः प्राचीनकालादेव प्राकृतिकपर्यावरणस्य पोषकः वैदिककाले यद्यपि पर्यावरणस्य प्रदूषणस्य - -अद्य पर्यावरण । स्थाने ऋषीणां पर्यावरणविषयकं चिन्तनं दृश्यते-समस्या नासीत् तथापि वेदेषु स्थाने पर्यापरं जनाः अस्याः गाम्भीर्ये न अनुभवन्ति,प्रदूषणं संसारस्य भीषणतमा समस्या वर्ततेवरणं रक्षणीयं वृक्षाः रोपणीयाःरक्षणीयाःच इति शृण्वन्तः उद्घोषयन्तःअपि वयम् प्रतिदिनं तेषां कर्तनं पश्यामःइति "प्लास्टिका " । रसायनेन निर्मितवस्तूनि पर्यावरणाय हानिकराणि इति जानन्तः अपि जनाः एतेषां प्रयोगं बाहुल्येन कुर्वन्ति प्रदूषकं धूमं क्षिप्तां -पर्यावरण वाहनानाम् औद्योगिकयद्यपि । यन्त्रागाराणां संख्या निरन्तरं वर्धमाना अस्ति-अपेक्षिताः परं सञ्चाराय विस्तृताःसुरक्षिताः मार्गाः जनानां कृते अपि ,विकासाय नवीनाः आविष्काराः यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि पृथिव्यां जीवनमेव असंभव। आवश्यकाः एवं

भविष्यति तदा भौतिकनिकासेन किम् अतः सर्वकारः जनसहयोगेन सर्वथा पर्यावरणरक्षणाय ।

। यत्नशीलःभवेदिति

अ.   एकपदेन उत्तरत(केवलं प्रश्नद्वयम) -   (1×2=2)

(i(के रोपणीयाःरक्षणीयाः च ?

(ii(कदा पर्यावरणस्य प्रदूषणस्य समस्या नासीत् ?

(iii)   अस्माकं देशः कस्य पोषकः?

ब.   पूर्णवाक्येन उत्तरत(केवलं प्रश्नद्वयम)-   (2×2=4)

)i(किं जानन्तः जनाः प्लास्टिकनिर्मितवस्तूनां प्रयोगं बाहुल्येन   कुर्वन्ति-?

)ii(यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि किं भविष्यति?

(iii) केषां संख्या निरन्तरं वर्धमाना अस्ति?

सअस्य. अनुच्छेदस्य कृते उपयुक्तं शीर्षकं संस्कृतेन लिखत।   (1×1=1)

द. यथानिर्देशम् उत्तरत(केवलं प्रश्नत्रयम) -   (1×3=3)

(i'(जनाः अस्याः गाम्भीर्यं न अनुभवन्ति'अत्र किं क्रियापदम् ?

(क(जनाः (ख(अस्याः)   ग(अनुभवन्ति   न (घ)

(ii('नवीनाः' इति विशेषणपदस्य विशेष्यपदं किम्?

(क(प्राचीना)ख(मार्गाः) ग(आविष्काराः   (घ) वस्तूना

)   iii('वयम् प्रतिदिनं तेषां कर्तनं पश्यामःअस्मिन् वाक्ये'

क्रियायाः कर्तृपदं किं प्रयुक्तम्'पश्यामः' ?

(क(तेषां   )ख(वयम्)   ग(पश्यामः कर्तनं (घ)

(iv(इति पदस्य किं विलोमपदं गद्यांशे'शोषकः'प्रयुक्तम्?

(क(विषयः)ख(पोषकः)   ग(सरलः (घ)   अस्याः

6. भवान् गिरीशः। भवतां विद्यालये संस्कृतसप्ताहः समायोजितः। तत्र संस्कृतसम्भाषणप्रतियोगितायाम् भवता प्रथमः पुरस्कारः प्राप्तः। तत् सूचयता भवता स्वमित्रं पुनीतं प्रति लिखिते पत्रे रिक्तस्थानानि पूरयित्वा पुनः पत्रं लिख्यताम्। सहायतायै मञ्जूषा अपि दत्ता-

छात्रावासः

12, मालवीयनगरम्

(i (……………

दिनाङ्कः ………………

प्रियमित्र)ii (……………………

सस्नेहम्)iii(…………………।

अत्र वयं सर्वे कुशलिनः। अस्माकं विद्यालये गतसप्ताहे संस्कृतसप्ताहः)iv (……………………। तत्र एका सम्भाषणप्रतियोगिता)v (………… । अहं तस्यां)vi (…………………… प्रथमपुरस्कारं प्राप्तवान्। संस्कृतसम्भाषणेन)vii (………………… आत्मविश्वासः जागृतः अभवत्। इदानीम् अहं संस्कृते एव)viii (………………………। भवान् अपि तथा प्रयत्नं कुर्यात्।

पितृभ्याम् नमोनमः।

(ix (……………… अभिन्नमित्रम्

(x (………………

मञ्जूषा-	अभिवादनम्, वदामि, पुनीत, दिल्लीतः, अभवत्, मयि, भवतः, समायोजितः, गिरीशः, प्रतियोगितायाम्,

7. भवान् रायगढ़नगरस्थ उमेशः । भवतः मित्रं राजीवः नागपुरनगरे वसति । तं प्रति परीक्षायाम् सफलतायै - - वर्धापनपत्रं पूरयित्वा लिखत (5)

मञ्जूषा - अपश्यम, महती, उमेशः, आगतः, तुभ्यम्, छात्रवृत्तिम्, अधिकतरा, राजीव, तत्रास्तु , रायगढ़नगरतः|

(i) ....

तिथिः ....

प्रिय मित्र (ii)................

अत्र कुशलम् (iii)................ । अद्यैव तव परिणामः (iv)................ । तव सफलतां ज्ञात्वा मम मनसि (v)........... प्रसन्नता जाता । मम एषा प्रसन्नता (vi)............. जाता यदा अहम् तव नाम योग्यतासू-चौ (vii)............. । त्वया सप्त रूपेण-शतानि अंकाः प्राप्ताः । त्वं निश्चित-(viii)................... प्राप्स्यसि । त्वया परिवारस्य विद्यालयस्य च नाम उज्ज्वलीकृतम् ।

अस्याम् उज्ज्वल सफलतायाम् अहम्(ix)............... हार्दिकं वर्धापनम् यच्छामि उज्ज्वलभविष्याय च कामये । - मातृपितृचरणेषु प्रणामः ।

तव अभिन्नहृदयं मित्रम्

(x)................

8. भवान् गौरवः अस्ति। भवतः मित्रम् मयकः नवकक्षायाम् प्रविष्ट। स्वमित्रम् नवकक्षायां संस्कृतम् पठितुम् प्रेरयितुम् लिखिते अस्मिन् पत्रे रिक्तस्थानानि पूरयित्वा उत्तरपुस्तिकासु लिखत।

प्रिय मयंक,

     (1) ....|

अत्र (2)...................तत्रास्तु। तव पत्रात् ज्ञातं यत् त्वम् नवमकक्षायां संस्कृतम् पठितुम् इच्छसि। एतत् ज्ञात्वा अहम् अति प्रसन्नः(3) ....यतः संस्कृतम् पठित्वा वयं स्वदेशस्य गौरवम् अनुभवितुम् (4)...........................|इयं देवभाषाविश्वस्य सर्वासु भाषासुप्राचीनतमा(5)...................च अस्ति। विश्वस्य(6)......................भाषासु भारतीयभाषासु च(7).......................शब्दाः प्राप्यन्ते | किम् त्वम् जानासि यत् वेदाः रामायण महाभारतम्, उपनिषदः पञ्चतन्त्रहितोपदेशादयः(8)..........................संस्कृते एव लिखिताः सन्ति ।

अतः त्वम् सर्वैः(9)..............................सह संस्कृतमपि परिश्रमेण पठ। अवकाशेषु मम गृहम् आगच्छ। मातापितृभ्याम्मम प्रणामान् कथय।

तव(10) ....

गौरवः।

मञ्जूषा - अभवम् , नमोनमः, मित्रम् , शक्नुमः, विषयैः, संस्कृतस्य , अनेकासु ,ग्रन्थाः., वैज्ञानिकी,कुशलं|

9.भवती प्रभा अस्ति स्वमातरं प्रति स्वस्वास्थ्य विषये लिखितम् इदं पत्रं मञ्जूषायाः सहायतया पुनः ।

 । सम्पूर्ण लिखतु   ½x10=5

विद्यालयपरिसरः

)   i................ (

समादरणीयाः)ii.........................(

सादरं प्रणामाः ।

अत्र कुशलम् तत्रास्तु ।सम्प्रति मम)iiiअत्र छा! परीक्षा सञ्चरति...................(त्रावासे पठनस्य वातावरणं तु शोभनं वर्ततेअत्र अध्यापकाःअपि । च अतीव कर्मठाःसन्ति) अतः पठनस्य कार्यम् ।ivएव .... ( ) परन्तु अध्ययनकारणात् शयनस्य भोजनस्य च ,भवतिv अतः अद्यत्वे मम । एव न प्राप्यते................( )viसुष्ठु ना............. (स्ति) अहं ।vii) परं काचिद् अपि । पीडिता अस्मि..................(viiiनैव ....(परीक्षायाःअनन्तरं। आशासे अहं शीघ्रमेव पूर्णतया स्वस्था भविष्यामि ।करणीया)ixतदा वयम् मिलित्वा भ्रमणाय वाराणसीनगरम्   गमिष्यामः । आगमिष्यामि........................(। पित्रे)x...................(।

भवत्या : पुत्री

प्रभा

मञ्जूषा-

वार्षिकी,शिमलातः,ज्वरेण,मातृचरणाः,गृहम्,स्वास्थ्यम्,समुचितं,नमः, समयः, चिन्ता ।

10. अधोलिखितं संवादं मञ्जूषायां प्रदत्तपदानां सहायतया पूरयत-   1x5=5

सत्सङ्गते (i) ....को न जानसि ? संसारे द्विधा जनाः सन्ति, सज्जनाः दुर्जनाश्च । दुर्जनस्य संगतिम् कोऽपि कर्तुम् न इच्छति। अपरत्र सत्सगं विना जीवनम् एव (ii)..............भवति । वस्तुतः (iii)............जनानां पोषिका कुसंगतिश्च नाशिका। अतः सत्संगतिः एव श्रेयसी। (iv) ....तु स्वगुणैः एव सन्तः कथ्यन्ते, अतएव जनाः सज्जनानां सङ्गतिम् इच्छन्ति । सद्गुणैनैव जनः (v)..............वाचा कर्मणा स्वस्थो भवति।

   * मञ्जूषाः -- मनसा, सज्जनाः, सत्सङ्गतिः, दुर्जीवनं, महिमानम् ।

11. रिक्तस्थानानि पूरयित्वा अधोलिखितसंवादं पुनः लिखत।   (5×1 = 5)

रेखा - अरे कृष्णः ! त्वं किं करोषि ?

कृष्णः - अहम् (i) ....

रेखा- इदं त्वया उचितम् न कृतम्। अवकरम् यत्र-तत्र न क्षिपेत् केवलं पात्रे हि क्षिपेत्।

कृष्णः- कथम् अत्र तव गृहम् अस्ति किम् ?

रेखा- नहि, मम गृहं नास्ति, परन्तु (ii).......................

कृष्णः- गच्छ, स्वकार्यम् कुरु। अलं विवादेन।

रेखा- प्रथमम् अवकरं (iii).........................

कृष्णः- इदम् अहं न करिष्यामि।

रेखा- मित्र ! अत्र वयं भ्रमामः क्रीडामः च। अवकरेण विविधाः रोगाः (iv) ....। मार्गाणाम् स्वच्छता तु सर्वेषाम् स्वास्थाय आवश्यकम् अस्ति। वयम् छात्राः स्मः। वयम् एव स्वच्छतायाः संदेशम् दातुम् शक्नुमः।

कृष्णः - सत्यं कथयसि। शीघ्रम् स्वच्छम् करोमि । इदम् तु (v)............. ।

* मञ्जूषाः - उत्पन्नाः भवन्ति ।

            अवकरं क्षिपामि।

            पात्रे क्षिपतु।

            पर्यावरणाय अपि आवश्यकम्।

            स्वच्छता तु सर्वेषाम् कृते आवश्यकी भवति।

12. अधोलिखितं संवादं मञ्जूषायां प्रदत्तपदानां सहायतया पूरयत-   (1x5=5)

रामः त्वम् कुत्र (i) ....?

रत्नः अहम् (ii)...................... गच्छामि ।

रामः   तव विद्यालये कति अध्यापकाः सन्ति ?

रत्नः मम विद्यालये (iii)............... अध्यापकाः सन्ति ।

रामः तव (iv)...............अध्यापिका न अस्ति ?

रत्नः मम विद्यालये एका अध्यापिका अस्ति ।

रामः तव अध्यापकानां (v)............... कीदृशः अस्ति ?

रत्नः तेषां व्यवहारः स्नेहशीलः अस्ति ।

   मञ्जूषा - व्यवहारः, विद्यालयम्, पञ्चदश,विद्यालये,गच्छसि

13. अधोलिखितं कथां मञ्जूषायाः सहायतया पूरयित्वा पुनः लिखत-

पुरा (i)...................त्रयः एव विश्वविद्यालयाः आसन्-तक्षशिला,

विक्रमशिला नालन्दा च। तेषु विश्वविद्यालयेषु नालन्दा

विश्वविद्यालये(ii).........................केवलंशिक्षादीयतेस्म।एवमेवतस्मिन्नेव(iii)......................कृषिःआयुर्वेदः,पशुविज्ञा

नं,कला शिल्पानाञ्च शिक्षा दीयते स्म । अतःसप्तवर्षीयः सन् (iv)............. ......पञ्चविद्याः अधीतवान्।तासु

शब्दविद्याशिल्पस्थानम्-आयुर्वेदः–हेतुविद्या-आध्यात्मि- की च विद्याः आसन् । एताः विद्याः पठित्वा छात्राः

(v) ...."विवेकिनः अभवन् जीवनदर्शनं च जानन्ति स्म। । तदैव अस्माकं देशः भारतम् 'स्वर्णखगः'

कथ्यते स्म।

   मञ्जूषा- छात्रः, बौद्धदर्शनस्य, सत्यासत्य, विश्वविद्यालये ,भारते

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