Name: _____

Roll No: _____

DHAKA COACHING CENTRE

IMPORTANT PAPERS

2018-19

XII Sc

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IMPORTANT QUESTIONS 2019

Subject: English **CLASS: XII**

Prose Section

1. What motive has 'HE' for murdering Mrs. Oakentubb?
2. Was 'HE' justified in murdering Mrs. Oakentubb?
3. Explain the importance of the label on Mrs. Oakentubb's suitcase. Why does she hide it?
4. Write a brief character attributes of Mrs. Oakentubb?
5. Why does the author consider that it is useless to resist Industrialization?
6. What was the advise of Bertrand Rusself to Asia countries?
7. What is Einstein's attitude to democracy?
8. How long the panic did last and how was order restored?
9. How did Lieutenant Colonel or Dr. Mallory behave in the story "The Day the Dam Broke"?
10. What is the main theme of the lesson entitled "The Day the Dam Broke"?
11. What do you know about Liaquat Ali Khan with special reference to his speech under the subject of Pakistan and the Modern World?
12. What is Einstein's attitude to property, out ward success and luxury?
13. What is Einstein's attitude to war?
14. How does the one sided friend ship between Hans and the Miller end in a tragedy?
15. When do we realize that the miller was not really a good friend of Hans?
16. Why was the story of Hans and the Miller applicable to the Water Rat?
17. Briefly discuss whether the Magistrate gives Jones a fair trial.

Poem Section

1. What is the central idea of the poem "The Seven Ages of Man"?
2. Give the main idea of the poem "The Man of Life Upright".
3. Why does the heart of an upright man be guiltless and free from all dishonest deeds?
4. How did Samson take revenge from his enemies?
5. "Ignorance to the future is a blessing of God". Discuss it with the examples given in the poem "Lines from an Essay on Man"
6. "A thing of Beauty is a joy forever". Explain the line in your own words.
7. Describe the moral /central idea of the poem "Say Not the Struggle Naught Availeth"?
8. What message does the poet, Alfred Tennyson want to convey through the symbolic character of "Ulysses"
9. What is the main idea of the poem, "Say Not the Struggle Naught Availeth"?
10. Define first and the last stage of man's life according to William Shakespear.

Novel Section

1. "Rupert is really a dare-devil". Comment
2. Who persuaded Rudolf Rassendyll to impersonate the King and why?
3. Describe the ceremony of coronation, taken place at the cathedral.
4. Why did Duke Michael kidnap the King?

5. How and why did Rudolf Rassendyll impersonate the King of Ruritania?
6. Why and how did Madam Antoinette de Mauban help Rudolf Rassendyll?
7. How did Princess Flavia prove in the end of the novel that she wanted to uphold honor and prestige of her homeland and family?
8. Why did Lady Mauban try to help Rassendyll against Duke Michael?
9. Briefly describe Rassendyll's meeting with King Rudolf in the forest.
10. What was Jacob's ladder? Give an account of the first attempt of Rassendyll at it
11. Give an account of bell ceremony which Rassendyll gave in honor of Princess Flavia.
12. "Heaven does not always make the right men kings" said Sapt. Do you think Rassendyll deserve to be the King of Ruritania? If so, why?

Essays

- Science/Internet a curse or a blessing
- Social Media
- Problems of a Big city
- PSL 2019
- Operation Raddul Fasad (War against terrorism)
- Diamer Bhasha Da

Narrations

Practice, as Directed in class.

Comprehension

Practice, as directed in class.

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IMPORTANT QUESTIONS 2019

Subject: Chemistry **CLASS: XII**

Chapter#1

- Describe Do-berenier Trides & newland law of octave.
- State the Mendleev's periodic law with its merits and demerits.
- Identification of Group period and Blocks with the help of electronic configuration.

Chapter#2

- What are Hydrides discuss Ionic hydrides
- Industrial preparation of hydrogen gas, water gas, separation of hydrogen from water gas.

Chapter#3

- Extraction of sodium by down's electrolytic cell
- Describe the manufacturing of caustic soda by Castner kellner cell
- Write Short note on i) Bleaching powder of Gypsom ii) Isotopes of Hydrogen

Chapter#4

- Metallurgy of Aluminium
- Ostwald method for the preparation of Nitric acid
- Manufacturing of chlorine by Nelson cell
- Reactions of sulphuric acid and lead pigments

Chapter#5

- Properties of d-block i) Colour ii) complex formation iii) Catalytic property iv) Magnetic property

Chapter#6

- Define: 1) Polymerization 2) Isomerism 3) Rencidification of oil and fats 4) vitamins

Chapter#7

- Molecular orbital structure of ethene
- Mechanism of free radical reaction
- Molecular orbital structure of benzene
- All reactions of Benzene

Chapter#8

- Mchanism of SN^1 and SN^2 reactions
- Grignard reagent + last four reactions of Grignard reactant in book

Chapter#9

- Phenol / Aldehyde / ketone complete with their preparation and properties (all chemical reactions)
- Reaction of formation of acetic an hydride by acetyl chloride formation of acetone from acetic acid.

Chapter#10

- Write note on Amino acid and carbohydrates

Chapter#11

- Write note on the following industries
  Paint , Glass , Plastic

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IMPORTANT QUESTIONS 2019

Subject: Physics **CLASS: XII**

SECTION – A
MULTIPLE CHOICE QUESTIONS- (M.C.Qs)

Q.1: Select the suitable answers. **(17)**

i) If temperature of hot body is decreased the efficiency of Carnot engine will:
* increase * decrease * remain constant * none of these

ii) Increasing the separation between the two identical charges by one half causes the repulsive force to become:
* one-fourth * half * double * fourfold

iii) λ_{max} X T = constant this mathematical expression is called:
* law of radioactive decay * Stefan's law
* Rayleigh-Jean's law * Wien's law

iv) The rate of flow of blood in the body can be traced by using radioisotope:
* $_{20}Ca^{40}$ * $_{6}C^{12}$ * $_{1}H^{3}$ * $_{11}Na^{24}$

v) weber / m^2 is also known as:
* Farad * Henry * Ampere * Tesla

vi) Hole in a semiconductor is actually:
* positron * vacancy in valence band * Helium nucleus * Electron

vii) The minimum energy required for a pair production is:
* 1.02 MeV * 102 MeV * 10.2 MeV * 1.02 Volts

viii) When an AC generator is converted into a DC generator slip ring is replaced by:
* a dynamo * a split ring * a field coil * an inductor

ix) A single device containing ammeter, voltmeter and ohmmeter is:
* Multimeter * potentiometer * CRO * VTVM

x) The diode which gives off visible light when energized, is called:
* LCD * Photo diode * LED * Solar cell

xi) When an electron falls from 5 th orbit to the 3 rd orbit in the Hydrogen atom, the line spectrum obtained belongs to:
* Bracket series * Balmer series * Paschen series * Lyman series

xii) Laser produces:
* an electron beam * a neutron beam
* a coherent beam of light * all of these

xiii) An electric current passing through a conductor, produces around it:
* an electric field * a magnetic field
* both electric and magnetic fields * no field

xiv) PN- junction diode works as an insulator if connected:
* to AC source * Forward bias
* Reverse bias * all of these

xv) The core of transformer is laminated to reduce the loss of energy caused by:
* Flux leakage * Eddy currents
* Heating * all of these

xvi) As the temperature of black body is raised the wavelength corresponding to the maximum intensity shifts towards:
* similiar wavelength * shorter wavelength
* longer wavelength * none of these

xvii) Heat energy cannot be measured in:
* Joule * BTU * Kelvin * Calorie

SECTION – B
(SHORT- ANSWER QUESTIONS) (40 MARKS)

Note: Attempt any 10 questions from this section. All questions carry equal marks.

Q.2: i) Prove that coefficient of linear thermal expansion is 1/3 rd of coefficient of volume thermal expansion.

OR

Prove that Kelvin and Clausius statements for 2nd law of thermo dynamics are identical.

ii) An air storage tank whose volume is ½ litre containing 3Kg of air at a pressure of 18 atmospheres. How much air would have to be forced into the tank to increase the pressure to 21 atmosphere assuming no change in temperature.

OR

Calculate root mean square speed of oxygen molecules at 800K. Its molar mass is 32g and universal gas constant R = 8.314J/mole.K

iii) Three capacitors 1.0pFare charged separately the potential difference of 100, 200 and 300 volts. The capacitors are the joined in parallel, what is the resultant potential difference.

OR

The surface charge density on a vertical metal plate is 25×10^{-6} C/m^2. Find force experienced by charge of 2×10^{-10} C placed closely in front of sheet.

iv) Derive a relationship between electric potential and electric field.

OR

Derive an expression $\rho_t = \rho_o (1+ \alpha \Delta T)$

v) A water heater that will deliver 1 Kg of water per minute is required the water will supplied at 20°C and output temperature of 80°C is desired. What should be the resistance of heating element in the water if the line voltage is 240V?

OR

A source of what potential difference is needed to charge a battery of 20V emf and internal resistance of 0.1Ω at a rate of 70 A?

vi) What is toroid? Find magnetic field of induction inside and outside of toroid?

OR

What is ampere's law? And derive magnetic field of induction inside a solenoid?

ix) A step down transformer at the end of transmission line reduces the voltage from 2400 volts to 1200 volts. The power output is 9.0KW and overall efficiency of transformer is 95%. The primary winding has 400 turns. How many turns has the secondary coil? What is power input? What is the current in each coil?

OR

x) How a galvanometer is converted into voltmeter? Derive an expression for high resistance connected in series.

OR

A galvanometer has a resistance of 100Ω. A potential difference of 50mV gives full scale deflection. Calculate the shunt resistance to read from 0A to 5A. What is the value of series resistance if the galvanometer is to be converted into voltmeter to read upto 250V?

xi) What is De-Broglie hypothesis? Who provide experimental support to it? Also derive a relevant expression.

OR

What do you mean by annihilation of matter and materialization of energy?

xii) Certain excited state of Hydrogen atom Have a life time 2.5×10^{-19}S. What will be minimum uncertainty in energy?

OR

Given that $m_oC^2 = 0.511$MeV, find total energy E and kinetic energy K of an electron moving with a speed V = 0.85C. ($m_o = 9.1 \times 10^{-31}$, C = 3×10^8m/s)

xiii) Define, a) X-Ray Bremsstrahlung b) X-Ray characteristic spectra

OR

Calculate the speed of ultraviolet radiations, given that
$\epsilon_o = 8.85 \times 10^{-12}$ C^2/Nm^2 $\mu_o = 4\pi \times 10^{-7}$ web/Am

xiv) What are the advantages of using semiconductor diode over Gieger counter?

OR

Determine the longest and shortest wavelength of photons emitted in balmer series. ($R_H = 1.097 \times 10^7\ m^{-1}$)

xv) Pair annihilation occurred due to head on collision of electron and positron having the same kinetic energy, producing pair of photons each having 2.5 Mev. What were there kinetic energies before collision? (Given $m_oC^2 = 0.511$ Mev)

OR

What is the purpose of coolant in reactor? Give four important properties of good coolant.

SECTION – C
(DETAILED – ANSWER QUESTION)(28 MARKS)

Q.3 a) Derive an expression for pressure on the basis of kinetic molecular theory of gases.

OR

Describe construction and working of Carnot engine, derive expression for efficiency of Carnot engine.

b) What is moving coil galvanometer, describe its construction and working and prove that $I \alpha \theta$.

OR

Describe construction and working of alternating current generator with relevant expression.

Q.4 a) Derive an expression for energy of nth order of Hydrogen atom.

OR

What is meant by black body radiations? What is ultra violet catastrophe? How Planck avoid ultraviolet catastrophe?

b) Describe Wilson cloud chamber. How we conclude the nature of radiation by using it?

OR

What is transformer? On what principle it works? What do you mean by step up and step down transformer? Derive relevant expression

Q.5 a) What is photoelectric effect? What are its important results? Why classical wave theory of light was unable to explain this phenomenon?

OR

Derive an expression for torque on current carrying conductor placed in magnetic field.

b) What is a transistor? How it can be used as an amplifier?

OR

Describe nuclear fission and fusion processes. Also describe Hydrogen cycle and Carbon cycle.

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IMPORTANT QUESTIONS 2019

Subject: Maths **CLASS: XII**

(Short -Answers Questions) Marks 50

NOTE: Attempt any **TEN** part questions from this section **'B'** selecting atleast **THREE** part questions from each question .You may choose the Tenth part question from any one sub section .All questions carry equal marks.

ANALYTICAL GEOMETRY (STRAIGHT LINE &VECTOR ALGEBRA)

Q2. **chapter#02(1question)**

i) A straight line passes through the points A(-12,-13) and B(-2,-5).Find the point on the line whose ordinate is –

ii) The vertices A, B and C of a triangle are (2, 1), (5, 2) and (3, 4) respectively; find the coordinates of the circum-centre and also the radius of the circum-circle of the triangle

iii) Find the equation of the line which passes through the point (-3, -4) and has the sum of its intercepts equal to 1.

iv) If a line through (2,5) and (-3,-2) is perpendicular to the line through (4,-1) and (x,3) .Find x

v) An equilateral triangle has one vertex at the point (3,4) and another at the point (-2,3). Find the coordinates of the third vertex.

vi) Find the point which is equidistant from (0,0), (3,1) and (6,0).

vii) The centroid of a triangle whose two vertices are (2, 4) and (3, -4) is found to be (3, 1); find the third vertex.

viii) The straight line joining the points (1, -2), (-3, 4) is trisected, find the co-ordinates of the points of trisection.

ix) Using slopes Prove that (12,8),(-2,6) and (6,0) are the vertices of right triangle

x) The line through (6, -4) and (-3, 2) is perpendicular to the line through (2, 1) and (0, Y); find Y. Also find the equation of both the lines

xi) Find the equations of the straight line which passes through the point (3,4) and makes intercepts on the axes such that the y-intercept is twice its x-intercept.

XII) Prove that the diagonals of an isosceles trapezoid are equal

xiii) Find the equation of the perpendicular bisector of the line segment joining the points A(15, 14) and B(-3, -4).

xiv) If the points (a, b), (a', b'), $(a-a', b-b')$ are collinear, show that their join passes through the origin and that $ab' = a'b$

xv) Find the equation of the locus of a moving point such that the slope of the line joining the point to A(1, 3) is three times that of the slope of the line joining the point to B(3, 1)

xvi) The X-intercept of a line is k and y-intercept is the reciprocal of the x-intercept and passes through the point (2, -1), find the equation of the line.

xvii) For the triangle with vertices A (5, 1), B (3, -5) and C (-3, 7). Find the equation of altitude from "B".

xviii) Find the equation of a straight line passing through the point (a, b) such that the portion of the straight line b/w the axes is bisected at that point.

xix) Find the angles of the triangle whose vertices are A (-2, 1), B (4, -3) and C (6, 4).

xx) Show that the line segment joining the mid-points of any two sides of a triangle is parallel to the third side and equal to one half of its length.

xxi) Prove that the points whose co-ordinates are respectively (5, 1), (1, -1) and (11, 4) lie on a straight line. Find the intercepts made by this line on the axes.

Chapter#03(2 questions)

i) Find the distance between the parallel lines
$3x + 4y + 10 = 0$, $6x + 8y - 9 = 0$.

ii) D, E, F are the mid-term of the sides BC, CA, AB respectively of the triangle ABC
Show that $\Delta ABC = 4\Delta DEF$.

iii) The point (-2,1) is a vertex of a rectangle whose two sides lie on the lines 3x-2y-5=0 , 2x+3y+7=0 .Find area of the rectangle.

iv) The point (2, -5) is the vertex of a square one of whose sides lies on the line $x - 2y - 7 = 0$; calculate the area of the square.

v) What does the equation $x^2 - y^2 = 0$ represent? If the line $y - 2 = 0$ intersects $x^2 - y^2 = 0$ at points 'A' and 'B' and if 'O' be the origin, then find the area of the triangle OAB.

vi) Determine the values of a and b for which the line $(a + 2b - 3)x + (2a - b + 1)y + 6a + 9 = 0$ is parallel to the axis of X and has y-intercept -3. Also write the equation of the line.

vii) Find the measures of the angles of the triangle, the equation of whose sides are $x + y - 5 = 0$ $x - y + 1 = 0$ and $y = 1$. Also find its area.

viii) A line whose y-intercept is 1 less than its x-intercept forms with the co-ordinates axes a triangle of area 6 square units. What is its equation?

ix) What does the equation $xy = 0$ represent? Also find the area if the triangle formed by the lines $x - 2 = 0$ and $x^2 - 7xy + 2y^2 = 0$.

x) The point A (-1, 3) is the foot of the perpendicular dropped from the origin to a straight line. Find the equation of this line.

xi) Find the centroid of the triangle, the equations of whose sides are $12y^2 - 20xy + 7x^2$ and $2x - 3y + 4 = 0$.

xii) Find the equation of a straight line through the point of intersection of the lines $3x + 2y + 5 = 0$ and $2x + 7y - 8 = 0$, bisecting the join of (-1, -4) and (5, -6).

xiii) Find the equation of the line passing through the intersection of the lines $3x - 4y + 1 = 0$ and $5x + y - 1 = 0$ and cutting off equal intercepts from the axes.

xiv) Find the equations of the straight lines passing through (1, -2) and making acute angles of $\pi/4$ radians with the line $6x + 5y = 0$ (Draw figure).

xv) Find the equation of the straight line through the intersection of lines $5x - 6y - 1 = 0$ and $3x + 2y = -5$ and perpendicular to line $3x - 5y + 11 = 0$.

xvi) Find the equation of the locus of a point whose distance from the point (2, -2,) is equal to its distance from the line $x - y = 0$.

xvii) Find the equations of the straight lines through the intersection of the lines $5x - 6y - 1 = 0$, $3x + 2y + 5 = 0$ and making an angle of 45° with the line $5y - 3x = 11$.

xviii) Find the equations of two straight lines passing through (3, -2) and inclined at 60° to the line $\sqrt{3}x + y = 1$.

xix) Find the equation of the line parallel to (i) x-axis(ii) y-axis and passing through the point of intersection of $x - 2y - 1 = 0$ and $2x + y + 1 = 0$.

xx) Find the value of K for which the two Lines $(K-1)x+Ky-5=0$, $Kx+(2K-1y+7=0$ intersect at a point lying on the axis of X.

xxi) Find the equation of the line through the intersection of the lines $7x - 13y + 46 = 0$ and $19x + 11y - 41 = 0$ and passing through the point (3,1) by using K method.

xxii) Find the value of K when the vertices of the triangle are the points (2,6),(6,3) and (4,k) and has its area 15 sq units.

xxiii) The gradient of one of the lines $ax^2 + 2hxy + by^2 = 0$ is five times that of the other. Show that $5h^2 = 9ab$

xxiv) The area of triangle is 5 squnit ,two of its vertices are the points A(1,-2) and B(2,3) and 3rd vertex C lies on the line 2x+y-2=0. Find Coordinate of C.

Chapter#09(2 questions)

i) Find cos $(\bar{a}, \bar{b})$ between $\bar{a} = 4\bar{i} - 2\bar{j} + 4\bar{k}$, $\bar{b} = 3\bar{i} - 6\bar{j} - 2\bar{k}$

ii) Find the angle b/w+ve y axis and the vector a= -I +3j+2k

iii) Find the unit vetor perpendicular to both the vectors $\underline{a} = \hat{i} - 3\hat{j} + 2\hat{k}$ and $\underline{b} = -3\hat{i} + 2\hat{k}$ and Find sin $(\underline{a}, \underline{b})$.

iv) Find cos $(\overrightarrow{AB}, \overrightarrow{AC})$ in a triangle whose vertices are A(5, -1), B(-2, 0) and C(4, 3).

v) Find the scalar area of the triangle ABC where A, B, C are the points (5, 1, -2), (-2, 7, 3), (-4, -3, 1) by vector method.

vi) Evaluate the scalar triple product:- $\left[-2\hat{i}+\hat{k},\ \hat{i}-\hat{j},\ 2\hat{j}+\hat{k}\right]$.

vii) Evaluate the scalar triple product of $[\bar{a}, \bar{b}, \bar{c}]$, where $\bar{a} = 2i - 3j$, $\bar{b} = i + j - k$ and $\bar{c} = 3i - k$.

viii) Find the volume of the parallelepiped with edges OA, OB, OC where A, B, C are the points (0, 1, 1), (-2, 1, 3), (2, -2, 0) respectively.

ix) Find the volume of the parallelepiped whose three adjacent edges are represented by the vectors: $\vec{a} = 2\imath - 3j + 4k$, $\vec{b} = \imath + 2j - k$ *and* $\vec{c} = 3\imath - j + 2k$

x) Find the constant 'a' such that the vectors $2\bar{i} - \bar{j} + \bar{k}$, $\bar{i} + \bar{j} - 3\bar{k}$, $a\bar{j} + 5\bar{k}$ are coplanar

xi) Prove that $[\bar{e} + \bar{f}\ \ \bar{f} + \bar{g}\ \ \bar{g} + \bar{e}] = 2[\bar{e}\ \ \bar{f}\ \ \bar{g}]$.

xii) Prove that $[\bar{a}, 2\bar{b} - 3\bar{c}, -2\bar{a} + \bar{b} + \bar{c}] = 5[\bar{a}, \bar{b}, \bar{c}]$

xiii) A particle acted upon by the forces $4\hat{i} + \hat{j} - 3\hat{k}$ and $3\hat{i} + \hat{j} - \hat{k}$ is displaced from the point (1, 2, 3) to the point (5, 4, 1), find the work done.

xiv) Forcesof magnitude 5, 3, 1 act on a particle in the directions of the vectors (6, 2, 3), (3, -2, 6), (2, -3, -6) respectively. The particle is displaced from the point (2, -1, -3) to the point (5, -1, 1); find the work done by the forces

xv) P, Q, R are the points $\bar{p}, \bar{q}$ and $2\bar{p} - \bar{q}$ respectively. M divides $\overline{PR}$ in the ratio 2:3 and N divides $\overline{QM}$ in the ratio 4:1. Find the position vector of N.

xvi) Show that the position vector of the mid-point of the line AB where A and B have position vectors $\bar{a}$ and $\bar{b}$ respectively is $\frac{\bar{a} + \bar{b}}{2}$.

xvii) Find the scalars x, y and z such that
$x(3\hat{i} - 4\hat{k}) + y(-\hat{i} + \hat{j} + 2\hat{k}) + z(\hat{i} - 4\hat{k}) = (5\hat{i} + 4\hat{j} - 10\hat{k})$

xviii) Resolve the vectors $\bar{a} = (2,1,0)$ in the direction of the vectors
$\overline{p_1} = (1,-1,2)$, $\overline{p_2} = (2,2,-1)$, $\overline{p_3} = (3,7,-7)$

xix) Resolve the vectors "a "in a plane in the direction of p_1, p_2 where a=(9,4), $p_1 = (2,-3)$ $p_2 = (1,2)$

xx) Two points P and Q have the position vectors with respect to the origin O, given $3\imath - j + 2k$ *and* $\imath - j - 2k$ respectively. Calculate the length PQ and show that the vectors $\vec{OP}$ and $\vec{OQ}$ are mutually perpendicular.

ANALYTICAL GEOMETRY (CONIC SECTION)

Q3.Chapter#07(2 questions)

i) Prove that two circle $x^2 + y^2 + 2gx + c = 0$ and $x^2 + y^2 + 2fy + c = 0$ touch each other, if $\frac{1}{f^2} + \frac{1}{g^2} = \frac{1}{c}$.

ii) Find the condition that conicsax^2+by^2 =1 and $a'x^2$+b'y^2=1 cut each other orthogonally.

iii) Find the equation of the circle touching each of the axes in 4th quadrant at a distance of 5

units from the origin

iv) Prove that the straight line y=x+c$\sqrt{2}$ touches the circle $x^2+y^2=c^2$ and find its point of contact.

v) Find the equation of circle which passes through the origin and cuts off intercepts equal to 3 and 4 from the axes.

vi) Prove that curves $x^2+3y^2-24=0$ and $3x^2+y^2=12$ intersect at right angle at the point $(\sqrt{6},\sqrt{6})$

vii) Find the equation of the circle whose centre is at the point (2, 3) and it passes through the centre of the circle $x^2+y^2+8x+10y-53=0$.

viii) If two circles $x^2+y^2+2gx+c=0$ and $x^2+y^2+2fy+c=0$ touch each other, then prove that $\frac{1}{f^2}+\frac{1}{g^2}=\frac{1}{c}$.

ix) Find the equation of the circle containing the point (-1, -2) and (6, -1) touching Xaxis (i.e y=0).

x) Find the equation of the circle which passes through the two points (a, 0), (-a, 0) and whose radius is $\sqrt{a^2+b^2}$.

xi) Find the equation of the circle containing the point (6,0) and touching the line y =x at point (4,4)

xii) **Show** that four points (3, 4), (-1, -4), (-1, 2), (3, -6) are concyclic, find the equation of the circle on which they lie.

xiii) Find the equations of tangentsto the circle$x^2+y^2-6x-2y+9=0$ through origin .Find also their respective point of contact

xiv) Find the equationof circle circumscribing the triangle whose vertices are (1,-2) ,(-5,2),(3,4)

xv) Prove that the point (5,-7.5) lies outside the circle whose equation is $x^2+y^2-4x+2y=44$

xvi) Find the equationof circle with centre at the point (1,-1)and touching the straight line 5x +12y=7

xvii) Find the equation of the circle which is concentric with the circle $x^2+y^2-8x+12y-12=0$.and passes through the point (5,4)

xviii) Find the equation of circle containing (1,-1) and (3,1) and with the Centre on the line x-y+10

xix) For what value of m the line y=mx touches the circle $x^2+y^2+2x-3y+2=0$

Chapter#08(3 questions)

Parabola(1question)

i) Find the equation of the circle whose diameter is the length of latus rectum of the parabola
a) $x^2=-36y$ b) $y^2=-36x$

ii) Determine the vertex, focus and equation of directrix and principal axis of the parabola
$x^2+4x+4y-12=0$ ii) $y^2+4y+3x-92=0$

iii) Find the equation of parabola having focus (-5,3) and directrix y-7=0.

iv) Find the equation of the parabola whose focus is (1,2)and vertex (1,-3)

v) Find the equations of the common tangents to the parabola $y^2=4x$ and rectangular hyperbola $y^2-x^2=4$

vi) Find the equation of the parabola whose focus is (3, 4) and directric $x+y-1=0$.

Ellipse((1question)

i) Find the equation of the ellipse whose centre is at origin , $e=\frac{2}{3}$, latus rectum of length $=\frac{20}{3}$ and major axis is along (i) x-axis (ii) y-axis

ii) Find the centre, focus and eccentricity of the $ellipse\ \frac{(x-3)^2}{25}+\frac{(y+1)^2}{9}=1$

iii) Find the eccentricity ,the semi axes , centre, vertices and the foci of the ellipse given by equation $4x^2-16x+25y^2+200y+316=0$.

iv) Find the eccentricity, foci and equations of directrices of $25x^2+9y^2=225$

v) Find the length of, and the equation to the focal radii drawn to a point $\left(4\sqrt{3},5\right)$ of the ellipse $25x^2 + 16y^2 = 1$

vi) Find the equation of the ellipse with centre at origin satisfying the conditions e = $^{2}/_{3}$ and directrix x-3= 0.

vii) Find the equation of the ellipse whose centre is at origin, vertices at $(0,\pm5)$ and the length of the latus rectum is 3 units.

viii) Find the equation of an ellipse whose center is at the origin, equation of the directrix is y + 4 = 0 and the focus is at (0, -3)

ix) Find the equation of the ellipse with vertices at $(0,\pm5)$ and passing through the point $\left(\frac{4}{5},3\right)$

x) If $y = \sqrt{5}x + k$, is a tangent to the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$, what is the value of 'k'?

xi) Find the distance between the vertices, foci and directices of the ellipse $9x^2 + 13y^2 = 117$

xii) Find the equation of the ellipse having the origin at its centre and focus at the point (4, 0) and the corresponding directrix x = 6.

xiii) Find the equation of the ellipse whose centre is at the origin, directrix x = 16 and length of latus rectum is 12.

xiv) Find the equation of the ellipse having the origin at its centre and end points of minor axis at $(0,\pm3)$, length of latus rectum is 3.

xv) The length of the major axis of an ellipse is 20 and its foci are the points $(\pm5,0)$. Find the equation of the ellipse.

xvi) Find the eccentricity of an ellipse whose length of latus rectum is half of its major axis.

Hyperbola(1question)

i) Find the equation of the hyperbola with centre at the origin & focus at the point (8, 0) and thedirectrix is x = 4.

ii) Find the eccentricity, foci and equations of directrices ,distance b/w directrices,foci and length of latus rectum of the hyperbola i)$9x^2 - y^2 + 1 = 0$ ii) $\frac{(x-1)^2}{4} - \frac{(y-2)^2}{9} = 1$

iii) Find the eccentricity of the hyperbola whose latus rectum is four times that of the transverse axis.

iv) Find the coordinates of the centre, foci, length of semi-transverse axis and the eccentricity of the hyperbola $9x^2 - 6y^2 + 18x - 64y - 199 = 0$.

v) Find the equation of the hyperbola with centre at the origin whose eccentricity is 3 and one of its foci is (6, 0).

vi) Find the equations of the tangents and normal to the hyperbola $x^2 - y^2 = 49$ at (8, 15).

vii) Find the equation of a hyperbola with centre at the origin, length of the latus rectum = 64/3, transverse axis along y-axis and eccentricity = 5/3

viii) Find the slope of the tangents at the ends of the lateral recta of the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.

CALCULUS

Q4.Chapter#04(1 questions -only derivative by first principle)

i) Find derivative by using the first principleat any point of its domain of any one of the following

i) f(x)=cotx, cosecx,sinx,cos2x

ii) f(x)= cos^2x , tan^2x , sec^2x

iii) f(x)=sinx^2,cosx^2

iv) f(x) =$x^{\frac{2}{3}}, \frac{1}{x}$,$\sqrt{x}$, x^n

Chapter#01(2 questions)

Limits of sequence(1question)

i) Write the n^{th} term of the sequence $\frac{1}{1.2},\frac{1}{2.3},\frac{1}{3.4},$……..…..and calculate its limit.

ii) Find the nth terms and the limit of the sequence:
$\frac{1.2}{3.4},\frac{3.4}{5.6},\frac{5.6}{7.8},$ ..... where dot '.' represents multiplication.

iii) Find the general term and the limit of the sequence: $\frac{3}{2},\frac{2}{3},\frac{5}{4},\frac{4}{5},$ .....

iv) Discuss whether the series $1-\frac{2}{3}+\frac{4}{9}-\frac{8}{27}+$ ..... is convergent or divergent.

v) Discuss whether the series $\frac{1}{5}+\frac{1}{5^2}+\frac{1}{5^3}+$ ..... is convergent or divergent

vi) If f: [-1, 5] $\rightarrow$ R is given by $f(x) = x^2$ for all $x\varepsilon$ [-1, 5], find f(2), f(-1/2), image of zero and image of 5. Can you find the value of -2? Does the eve exists a real number x such that f(x) = -1?

OR

Functions

i) Define composite function. If f(x) = tan(x +2) and $g(x) = x^2 + 1$ $\forall x\varepsilon R$; find the composite function fog and g of

ii) Define even and odd functions. Find whether $f(x) = \frac{e^x-1}{e^x+1}$ is even or odd function o

iii) The polynomial function f and g defined by $f(x) = x^2 - 3x + 4$, $g(x) = x+1$ $\forall x\varepsilon R$; Find fog and gof and show that fog =gof

iv) A function f: $R \rightarrow R$ is defined by:

$f(x) = 1-x,\ \forall x\varepsilon(-\infty.1)$

$= 1+x,\ \forall x\varepsilon[1,2]$

$= 1, \forall x\varepsilon(2,+\infty)$

Find: (i) the image of zero (ii) the value of f at (iii) $f(\sqrt{3})$ (iv) f (1) (v) the image of 5

Limits of function (1question)

Evaluate the following:

(1) $Lt_{x\to\infty}\frac{2x^2-2x+1}{x^2+4}$ (2) $Lt_{x\to2}\frac{x^m-2^m}{x^n-2^n}$ (3) $Lt_{\theta\to0}\frac{\operatorname{cosec}\theta-\cot\theta}{\theta}$

(4) $Lt_{x\to2}\frac{x}{\sqrt{1-\cos x}}$ (5) $Lt_{\theta\to0}\frac{\sqrt{x^2+16}-4}{x}$ (6) $\lim_{x\to0}\frac{\tan x-\sin x}{x}$

(7) $Lt_{\theta\to\pi/2}\frac{\cot\theta-\cos\theta}{\cos^3\theta}$ (8) $\lim_{x\to0}\frac{e^{mx}-e^{nx}}{x}, m,n\varepsilon R$ (9) $\lim_{x\to1}\left(\frac{1}{1-x}-\frac{3}{1-x^3}\right)$

(10) $Lt_{x\to0}\frac{3e^x-e^{-x}-2}{x}$ (11) $\lim_{x\to0}\frac{\sqrt{x+a}-\sqrt{a}}{x}$ (12) $\lim_{x\to3}\frac{9-x^2}{4-\sqrt{x^2+7}}$

(13) $\mathrm{Lt}_{x\to\infty}\dfrac{\ell n\left(1+e^{-x}\right)}{x}$ (14) $\mathrm{Lt}_{x\to 0}\dfrac{1-\cos px}{1-\cos qx}$ (15) $\mathrm{Lt}_{t\to\infty}\dfrac{\sqrt{2t^2+t}}{3t+5}$

(16) $\lim\limits_{x\to 0}\dfrac{1-\cos x}{\sin x}$ (17) $\lim\limits_{x\to 0}\dfrac{\tan x-\sin x}{\sin^3 x}$

Chapter#05(1 question)

Approximation using differential(1question)

i)) Show that $\sqrt{x+\Delta x}$ can be approximated to $\sqrt{x}+\dfrac{1}{2\sqrt{x}}\Delta x$. Hence find approximate value of

(a) $\sqrt{3.9}$. (b) $\sqrt{9.1}$

ii) Using differentials, calculate the approximate value of
i) tan 44° ii) sin43° Iii)cos59° iv) log 10.1 v) log 4.02

Chapter#06 (1 question)

Differential Equation(Ex 6.11)

Solve the following differential equation

1) $.y\dfrac{dy}{dx}=x\left(y^4+2y^2+1\right),\ y(-3)=1$

2) $.x^2\dfrac{dy}{dx}=\dfrac{1}{y^2+\sqrt{y}},\ y(1)=1.$

3) $\dfrac{dy}{dx}=\dfrac{\sqrt{1+\cos 2y}}{\sin 2y},\ y=\dfrac{\pi}{2}$ when $x=3$

4 8) $\dfrac{dy}{dx}=\sqrt{xy-2y-3x+6}$ when $x=6$ and $y=12.$

5 10) $x^2\dfrac{dy}{dx}=3x^4y^2+y^2$, where $y(3)=1.$

6) $\dfrac{dy}{dx}=x\cos^2 y$

7) $\dfrac{dy}{dx}=y^2\sin x$

8) $2+2y\dfrac{dy}{dx}=1+3x^2, y(2)=1$

6) $\dfrac{dy}{dx}=\sin^2 y.\cos^2 x\sin x.$

7) $\dfrac{dy}{dx}=x+\sin x,\ y=3$ when $x=0.$

9) $\dfrac{ds}{dt}\sqrt{s+2}\sqrt{7t-5}$, given that s = 7 when t = 3.

OR

Area under the curve

1) Find the area above the x-axis between the ordinates $x = 1 and x = 2$ under the curve $y = 3x^4 - 2x^2 + 1$

2) Find the area above the X-axis between the ordinates $x = \frac{\pi}{4}$ and $x = \frac{\pi}{3}$ under the curve $y = \tan x$.

3) Find the area above the X-axis, between the ordinates x = -2 and x = 1 under the curve $y = \sqrt{9 - x^2}$.

4) Find the area above the X-axis under the curve $f(x) = \tan^2 x$ between $x = \pi/6$ and $\pi/4$

5) Find the area above the X-axis under the circle $x^2 + y^2 = 9$ between the ordinates x = 0.5 and x = 1.5.

6) Find the area under the curve $y = x - \frac{5}{x^2}$ b/w the ordinates x=2,x=4

7) Find the area under the curve y=3sinx b/w the ordinates $x=0, x=\frac{\pi}{3}$

8) Find the area above the X-axis, under the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$ b/w the ordinates x = -1& and x = 1.

SECTION C

(Detailed Answer Question) Marks 30

NOTE: Attempt **TWO** questions including **question 5 which is compulsory.(16)**

Q5. Evaluate any four of the following :

1) $\int_1^2 (3x^2 + 2x)\sqrt[3]{x^3 + x^2 + 7}\,dx$

2) $\int x \ln x\,dx$

3) $\int \frac{\sin(\ln x)}{x(3 - \cos \ln x)^{\frac{1}{2}}}dx$

4) $\int_0^1 \frac{dx}{\sqrt{4 - x^2}}$

5) $\int \frac{2x\,dx}{\cos^2 2x}$

6) $\int_0^{\pi/2} \frac{\sin x}{(1 + \cos x)(2 + \cos x)}dx$

7) $\int \frac{dx}{9 - x^2}$

8) $\int \cos 4x . \cos 2x\,dx$

9) $\int \frac{\cos x\,dx}{\sin x(2 + \sin x)}$

10) $\int \frac{\sec x \tan x\,dx}{a + b\sec x}$

11) $\int_0^{\pi/2} \cos^4 x\,dx$

12) $\int \operatorname{cosec}^6 x\,dx$

13) $\int \sin 4y \sin 2y\,dy$

14) $\int_0^a \frac{dx}{(x^2 + a^2)^{\frac{3}{2}}}$

15) $\int \frac{dx}{\sqrt{4x - x^2}}$

16) $\int e^x \frac{1 + \sin x}{1 + \cos x}dx$

17) $\int \frac{dx}{x^2 + 4x + 5}$

18) $\int x^2 \tan^{-1} x\,dx$

19) $\int \frac{dx}{4x - x^2}$

20) $\int \frac{2x\,dx}{(1 + x^2)(3 + x^2)}$

21) $\int \frac{x^3 dx}{\sqrt{a^2 - x^2}}$

22) $\int \sin 3x \cos 5x\,dx$

23) $\int \frac{2x - 3}{x^2 + 2x + 2}dx$

24) $\int_0^{\pi/2} x \cos x\,dx$

25) $\int x^2 \sqrt{4 + x}\,dx$

26) $\int \frac{\tan x}{\ln \cos x}dx$

27) $\int e^x \operatorname{cosec}^x dx$

28) $\int \frac{e^x dx}{1+e^{2x}}$

29) $\int_0^{\pi/3} \frac{dx}{1-\sin x}$

30) $\int x^2 \ell n\, x dx$

31) $\int_0^{\pi} \tan^3 x \sec x\, dx$

32) $\int_0^1 \frac{x^2 dx}{(4-x^2)^{3/2}}$

33) $\int_0^{\pi/6} \sin^5 3x . \cos^3 3x\, dx$

34) $\int \frac{\cos^2(\ell nx)}{x} dx$

35) $\int \frac{5\sin x}{6+\cos x-\cos^2 x} dx$

36) $\int_1^2 \frac{dx}{\sqrt{1+x}+\sqrt{x}}$

(37) $\int 6x^5 e^{x^3} dx$

38) $\int \tan^3 x \sec^3 x\, dx$

39) $\int \frac{\sqrt{x^2-9}}{x} dx$

40) $\int 2x^3 e^{x^2} dx$

41) $\int \frac{\cos x\, dx}{(1+\sin x)(2+\sin x)}$

42) $\int_1^2 \frac{dx}{\sqrt{1+x}-\sqrt{x}}$

43) $\int \frac{3x+1}{\sqrt{x-1}} dx$

44) $\int \sin^5 \times dx$

45) $\int e^x \sin 2x\, dx$

46) $\int x^3 \sqrt{x^2-9}\, dx$

47) $\int \frac{7x-25}{(x-3)(x-4)} dx$

48) $\int_0^2 \left(x^2+3x+5\right)^{\frac{-2}{3}} \left(x+\frac{3}{2}\right) dx$

49) $\int_0^{\frac{x}{4}} \tan^{-1} x\, dx$

50) $\int \frac{\operatorname{cosec} x \cot x}{a-b\operatorname{cosec} x}$

51) $\int x^3 \tan^{-1} x\, dx$

52) $\int \frac{\sin x}{2+3\cos x+\cos^2 x} dx$

53) $\int (\ell n\, x)^2 dx$

54) $\int e^{ax} \sin bx\, dx$

55) $\int \sin^4 x\, dx$

56) $\int x^2 \sin^{-1} x\, dx$ 57) $\int_0^{\frac{\pi}{4}} \sin^2 x \cos^2 x\, dx$

58) $\int_0^2 \frac{y^3 dy}{\sqrt{16-y^2}}$

59) $\int x^3 \sqrt{7+x^2} dx$

60) $\int \frac{du}{u^2 \sqrt{a^2-u^2}}$

61) $\int \frac{x+3}{x^2+2x+5} dx$

62) $\int e^x \cos x\, dx$

63) $\int \frac{\sec x \operatorname{cosec} x}{\ell n(\tan . x)} dx$

64) $\int_0^{\pi} x \tan^{-1} x\, dx$

65) $\int \left(x^3+1\right)^{7/5} x^5 dx$

66) $\int \sin 3x \sin 2x\, dx$

67) $\int \sin^3 x \sin^2 x\, dx$

68) $\int_0^{\pi/2} \cos 2x \cos x\, dx$

69) $\int \sin 3x e^{2x} dx$

70) $\int \frac{(3x+1)}{(x-1)(x+1)^2} dx$

71) $\int_0^{\pi/4} \tan^4 x\, dx$

72) $\int_0^1 \frac{t^3}{\sqrt{4-t^2}} dt$

73) $\int \frac{x^3+1}{\left(x^2-1\right)^2} dx$

74) $\int_{-1}^1 \left(2x^2+4\right) 4x\, dx$

75 $\int_0^{\pi/2} \sin^3 x\, dx$

76) $\int \frac{1}{x\left(x^2-1\right)} dx$

77) $\int \frac{\cot x\, dx}{\ell n(\sin x)}$

78) $\int \sin^{-1} x\, dx$

79) $\int \frac{1}{(x+1)\left(x^2+1\right)} dx$

80) $\int_{-2}^1 x\sqrt{2x^2+3}\, dx$

81) $\int_0^{\pi/2} x \cos x\, dx$

82) $\int_0^{\pi/6} \cos^3 x\sqrt{\sin x}\, dx$ 83) $\int x^2 \cos^{-1} x\, dx$ 84) $\int \frac{(x^2+2)}{(x^3-1)} dx$

85) $\int \frac{(2x-1)dx}{x(x-1)(x-3)}$ 86) $\int \frac{x^2}{\sqrt{1-x^6}}$ 87) $\int_{-1}^{1} \frac{3x^2+1}{(x^3+x+6)} dx$

88) $\int lnx dx$ 89) $\int x \tan^{-1} x\, dx$ 90) $\int \sqrt{4-x^2}\, dx$

91) $\int (\sqrt{x} \ \frac{1}{\sqrt{x}}) dx$ 92) $\int_1^2 (x+1)\sqrt[3]{x^2+2x+2}\, dx$ 93) $((ax^2+bx+c)^{\frac{-2}{3}}(x+\frac{b}{2a}) dx$

Q6a) Any question from Ch02/03 having longer solution .(7)

b)i) If $(x_1, y_1), (x_2, y_2)$ are the coordinates of the extremities of a focal chord of the parabola $y^2 = 4cx$, prove that $x_1 x_2 = c^2$ and $y_1 y_2 = -4c^2$

ii) Find the equation of the tangents to the parabola $x^2 = 4y$ which are parallel and perpendicular to the line $y = 6x + 2$

iii) Prove that the angle between the conics $x^2 = 4ay$ and $y^2 = 4bx$ at a point other than the origin is : $\theta = \tan^{-1} \frac{3}{2}\left(\frac{a^{\frac{1}{3}}}{a^{\frac{-2}{3}}}\right)$

iv) Show that $\frac{x}{p} + \frac{y}{p} = 1$ touches the hyperbola $\frac{x^2}{y^2} - \frac{y^2}{b^2} = 1$, if $\frac{a^2}{p^2} - \frac{b^2}{q^2} = 1$.

v) Find the equation of the circle passing through the focus of the parabola $y^2 + 8x = 0$, and the foci of the ellipse $16x^2 + 25y^2 = 400$.

Q7. Chapter 04(Finding $\frac{dy}{dx}$)

a) Find $\frac{dy}{dx}$ of any two of the following: **(7)**

1) $y = \frac{3x^2-1}{3x^2} + \ell n\sqrt{1+x^2} + \tan^{-1} x$ 2) $y = \ln \frac{e^x}{1+e^x}$ 3) $y = x^{\cos ec\, x}$

4) $e^x lny = \sin^{-1} y$ 5) $x = \sin t^3 + \cos t^3,\ y = \sin t + 2\cos^{-1} t$ 6) $x^y . y^x = 1$

7) $y = \ln\sqrt{1+x^2} + \cot^{-1} x$ 8) $x - a\cos^2 3\theta,\ y = b\sin^2 3\theta,$ 9) $y = \sqrt[5]{x^2} + 2x + 3$

10) $x = a\cos^n \theta,\ y = b\sin^n \theta$ 11) $2x^2 + 3xy + 7y^2 - 2x + 4y + 9 = 0$

12) $y = x^{\sin x + \cos x}$ 13) $y = \tan^{-1} \frac{2x}{1-x^2}$ 14) $y = (lnx)^{\tan^{-1} x}$

15) $y = (\tan^{-1} x)^{\cos x}$ 16) $y = \sqrt{(x^2 - 2x + 3)^3}$ 17) $y = x^{\sin x} + (\tan x)^x$

18) $y = (lnx)^{sinx}$ 19) $x = \tan t^3 + \sec t^3,\ y = \tan t + 2\sec t.$

20) $y = \frac{1-\sin 2x}{1+\cos 2x}$ 21) $2x^2 - 3xy + y^2 = 5$ 22) $y = \frac{1}{2} tan^2 x + \ln \cos x$

23) $x = a(\theta - \sin\theta),\ y = a(1 - \cos\theta)$ at $\theta = \frac{\pi}{2}$ 24) $\sqrt{x^2+y^2} = \ell n(x^2 - y^2)$

25) If $y = a\cos x + b\sin x$, show that $\frac{d^2y}{dx^2} + y = 0$

26)If y=ae^x+be^{2x} + ce^{3x} Show that $\frac{d^3y}{dx} - 6\frac{d^2y}{dx^2} + 11\frac{dy}{dx} - 6y$

OR

Find extreme values of the function

(i) $f(x) = e^x \sin x.$ (ii) f(x)=2e^x + e^{-x}

(iii) $f(x) = \frac{\ln x}{x}$ (iv) f(x) = $x(x-1)(x-2) \forall\ x \varepsilon R$

(v) $f(x) = x^3 - 9x^2 + 15x + 3$ vi)) $f(x) = \frac{1}{3}x^3 - 2x^2 + 3x + 1$ for all $x \varepsilon 5$.

b) Any question from Ch02/03 having longer solution (7)

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IMPORTANT QUESTIONS 2019

Subject: Computer **CLASS: XII**

(Short Ques/Answer)

Note: Answer any Twelve questions in this section. All question carry equal marks. Answer should not exceed 3-4 lines

Q2

i) Why is C language called " case sensitive language"?

ii) what will be the output of the following program segment?

```
for(i=1;i<3;i++)
if(i==3)
continue;
else
printf("%c",i);
```

iii) Write the printf() statement to print the following phrases using escape sequence

a. " The world is round"

b. How are you?

c. What is your Father's name?

iv) What is the purpose of ++ and – operators? In C-language?

v) Debug the following program segment

```
main()
{
Int i=5, j=1;
for(j=0,j<=I,j++)
printf("%f",&j);
```

vi) What are reserve words or keywords in C-language? Define only three.

vii) Write equivalent code of the following statement in while-loop format.

```
for(a=1;a<=10;a++)
{
Printf("%d",pow(a,a));
}
```

viii) What is composite key? What is Primary key? What is secondary key?

ix) Write a program to compute the discriminant value using given formula

(hint: d=$\sqrt{b^2-4ac}$

x) Write the order of precedence of operator in C

xi) If a=1, b=2 then define the purpose of the given code segment:

```
b=a+b;
a=b-a;
b=b-a;
```

xii) In which situation is one-to-many relationship used in database?

xiii) Write a program using function to calculate area of triangle.(hint:A=**1/2***(a*b))

xiv) What is data redundancy?

xv) What is query language and why is it a valuable aspect of DBMS?

xvi) Write different file opening modes in C-language.

xvii) What is the main purpose of report?

xviii) Write equivalent C-statement

a) $C=(x^2-y^2)\ +(x+y)^2$ b) $b = \left|\frac{a^2-4ac}{2a}\right|$ c) $Z=\frac{x^2+2xy+y^2}{x^2+y^2}$

(Detailed Ques/Answer)

Note: Answer any two questions from this section. All questions carry equal marks.

Q3a) What is a loop? Define any two types of loops in C.

b) Explain the different data types used in C language.

c) Why is Relational Database Management System (RDBMS) widely used in database design?

Q4a) Define function. What are the main reasons to develop a function?

b) How does the switch() statement differ from else if statement? Explain with example.

c) What do you understand by referential integrity?

Q5a) What are unformatted input-output (I/O) functions used in C? Explain with example

b) Explain the different data types in MS-Access

c) What is the conditional operator? Define the general statement.

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IMPORTANT QUESTIONS 2019

Subject: Biology **CLASS: XII**

ZOOLOGY AND BOTANY DESCRIPTIVE QUESTION SECTION

1: Nephron and Kidney (For Zoology Long Question).
2: Brain (For Zoology Long Question).
3: Nerve impulse (For Zoology Long Question).
4: Animal behavior (For Zoology Long Question).
5: Structure and Mechanism of Skeletal Muscle (For Zoology Long Question).
6: Male and Female Reproductive system (For Zoology Long Question).
7: Recombinant DNA technology (For Zoology Long Question).
08: Evidence of Organic Evolution (For Zoology Long Question).
09: Types of Movement in plant (For Botany Long Question).
10: Environmental Stress (For Botany Long Question).
11: Role of Hormones in Plants (For Botany Long Question).
12: Overview of gene expression (For Botany Long Question).
13: DNA as an evidence of heredity material (For Botany Long Question).
14: Epistasis (For Botany Long Question).
15: Law of segregation and law of independent assortment (For Botany Long Question).
16: DNA Replication (For Botany Long Question).
17: Mitosis (For Botany Long Question).
18: Xerosere and Hydrosere (For Botany Long Question).

ZOOLOGY SHORT QUESTION SECTION

1: Role of brain in temperature regulation
2: Shivering and non-shivering thermogenesis.
3: Urinary system of man
4: function of kidney
5: kidney stone and dialysis
6: ammonia, urea and uric acid
7: osmoregulation in aquatic animals.
8: excretion in cockroach, excretion in planaria.
9: types of joints
10: types of muscles
11: skeletal disorders
12: types of skeleton
13: neuron
14: sympathetic and para sympathetic system
15: reflex arc
16: nervous disorders
17: twins
18: sexually transmitted diseases
19: necessities of sexual reproduction
20: cell differentiation and aging
21: role of cytoplasm and nucleus in development
22:DNA fingerprinting and isolation of eukaryotic gene.
23: Amniocentesis and Gene sequencing
24: Objections of Darwin and lamarck's.

25: Hardy and Weinberg law.
26: Pollution and its types, global warming, acid rain and depletetion of ozone layer.
27: Non material and material pollution
28:Nuclear energy and wind wave ocean thermal gradient energy.
29: De-vires and weisman law.
30: Definitions:

a)	Poiklotherm	b)	Tetany
c)	Osmoregulation	d)	Homology
e)	Succession	f)	Ecosystem
g)	Biome	h)	Transgenic plant and animals
i)	Antioxidants	j)	Teratology
k)	Gerontology	l)	Dialysis

31:Eutrophication and algal bloom
32: Aging

BOTANY SHORT QUESTION SECTION

1: osmoregulation in plants/ classification of plants on the basis of osmoregulation.
2: xerophytic plants adaptations.
3: why excretions in plants is not a problem.
4: define floreign and phytoalexin.
5: define circardian rhythm, photoperiodisim, types of plants on the basis of photoperiodisim.
6: write short note on:-

a) Seed dormancy
b) Imbibition
c) Vernalization
d) Male gametophyte
e) Female gametophyte
f) Structure of seed

7: asexual reproduction in plants.
8: difference b/w red light and far red light
9: germination and its types
10: inflorescence and its types.
11: gymnosperm characteristics.
12: phases of growth in plants.
13: tissue culture
14: growth co-relation
15: define meristem, apical meristem, lateral meristem, fusiform initials, vascular cambium, Cork cambium, parenchyma, collenchyma, fibers, scelerids, annual ring, sap wood, heart wood and cortex.
16: chromosomal theory of heredity
17: structure of DNA.
18: mutation types.
19: homologous chromosome.
20: multiple allele
21: necrosis and apoptosis.
22: klinefilter syndrome, turner syndrome, down syndrome.
23: heteroploidy, polyploidy, aneuploidy, non-disjunction and cancer.
24: test cross
25: crosses of hameophila, colorblindness, dorsophhilia.
26: sex linked inheritance
27: pleiotropy, polygenic inheritance, chemical composition of DNA, succession.
28: savannah, grass land, tropical rain forest and tundra.
29: upwelling, pond ecosystem, ecosystem, population, biome, autecology, synecology, perma frost, double fertilization, role of pollen tube.
30: gene as a unit of heredity, alkaptonuria, phenylketonuria and diabetes mellitus.
31: co-dominace and incomplete dominance.
32: climatic factors, topographic factors and edaphic factors of ecosystem.
33: nitrogen cycle.
34: symbiosis, mutualisim, commensalisim, parasitism.
35: meiosis

ڈھاکہ کوچنگ سینٹر

BS-15/1، فیڈرل بی ایریا، کریم آباد، کراچی۔

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اہم ضروری سوالات برائے امتحان ۲۰۱۹ء

پرچہ: اردو　　جماعت: بارہویں

سوال نمبر ۱: کثیر الانتخابی سوالات: منتخب شدہ خالی جگہیں

۱۔ ڈرامہ سمندر کا دل مرزا دیبؔ کی تحریر ہے۔

۲۔ اردو ترکی زبان کا لفظ ہے جسکے معنی لشکر ہے۔

۳۔ اردو کے پہلے تنقید نگار حالیؔ ہیں۔

۴۔ اردو کا پہلا ڈرامہ اندر سبھا کو تسلیم کیا جاتا ہے۔ (مصنف امانت لکھنوی)

۵۔ اردو کا پہلا عوامی شاعر نظیر اکبر آبادی کو کہا جاتا ہے۔

۶۔ افسانہ مجسمہ کے مصنف غلام عباس ہیں۔

۷۔ رئیس المغز لین حسرت موہانی کو کہا جاتا ہے۔

۸۔ افسانہ بدلہ غلام ربانی آگرو کی سندھی تحریر ہے اور اس کا اردو ترجمہ ڈاکٹر حسرت کاسگنجوی نے کیا۔

۹۔ افسانہ بدلہ میں گھوڑے کا نام پکھی ہے۔

۱۰۔ اردو کا بے مثل شمیل نگار محمد حسین آزاد کو کہا جاتا ہے۔

۱۱۔ جدید اردو نثر کے بانی سرسید ہیں۔

۱۲۔ مرثیہ نگاری میں سب سے نامور شاعر میر انیسؔ ہیں۔

۱۳۔ اردو ڈرامہ کا شیکسپیئر آغا حشر کاشمیری کو کہا جاتا ہے۔

۱۴۔ بانگ درا اور بال جبرائیل کے خالق علامہ اقبالؔ ہیں۔

۱۵۔ سبق اردو ذریعہ تعلیم کے مصنف ڈاکٹر سید عبداللہ ہیں۔

۱۶۔ مقدمہ شعر و شاعری حالیؔ کی تخلیق ہے۔

۱۷۔ شاہ نامہ اسلام کے شاعر حفیظ جالندھری ہیں۔

۱۸۔ غالبؔ کے دیوان کو ہندوستان کی الہامی کتاب کہا جاتا ہے۔

۱۹۔ ڈرامہ آرام و سکون امتیاز علی تاج کی تحریر ہے۔

۲۰۔ سبق سیرت محمدی کی جامعیت سید سلیمان ندوی کا مضمون ہے۔

۲۱۔ اشفاق احمد کے تحریر کردہ افسانہ چور کے نسوانی کردار کا نام شکیلہ بیگم ہے۔

۲۲۔ چند ہم عصر مولوی عبدالحق کی تصنیف ہے۔

۲۳۔ نیا قانون منٹو کے بہترین افسانے سے ماخوذ ہے۔

۲۴۔ گنج ہائے گرانمایہ رشید احمد صدیقی کی تصنیف ہے۔

۲۵۔ نظم سرمائی شاہ عبداللطیف بھٹائی کی تحریر ہے۔

سوال نمبر۲: اقتباس کی تشریحات: منتخب شدہ پیراگراف

سیرت محمدی کی جامعیت:

☆ خدا کی محبت کا اہل ۔۔۔۔۔۔۔۔۔۔۔۔۔ مستحق بننے کا ذریعہ بنایا ہے۔ (صفحہ نمبر ۷۱)

☆ اگر دولت مند ہو تو مکے ۔۔۔۔۔۔۔۔۔۔۔۔ فاتح مکہ کا نظارہ کرو۔ (صفحہ نمبر ۷۳۔۷۲)

☆ اگر تم خدا کی محبت کا دعویٰ ۔۔۔۔۔۔۔۔۔۔ تو میری پیروی کرو (صفحہ نمبر ۷۶۔۷۵)

☆ گویا تمام دوسرے انبیاء کرام ۔۔۔۔۔۔۔۔ بہترین سامان موجود ہے (صفحہ نمبر ۷۴۔۷۳)

اسلام میں گداگری کی مذمت:

☆ سائل اپنے اندوختے کو ۔۔۔۔۔۔۔۔۔ کامیابی کا ذریعہ گردانتا ہے۔ (صفحہ نمبر ۱۱۰)

☆ ملک وقوم کے حق میں ۔۔۔۔۔۔۔۔۔ اس کی بیخ کنی کی جائے (صفحہ نمبر ۱۱۳)

☆ جس قدر قوم میں ۔۔۔۔۔۔۔۔۔۔ سم قاتل کا حکم رکھتا ہے (صفحہ نمبر ۱۱۰)

مولانا محمد علی:

☆ مرد غازی کے کارناموں ۔۔۔۔۔۔۔ ڈوبتے ہوئے سورج سے۔ (صفحہ نمبر ۸۹)

☆ کس بلا کے بولنے اور لکھنے ۔۔۔۔۔۔۔ تاج کا نقشہ مرتب ہو رہا ہے (صفحہ نمبر ۸۹)

☆ ملک وملت کی جنگ اب بھی جاری ۔۔۔۔۔۔ خود یزید کو تلاش ہو (صفحہ نمبر ۹۱)

محسن الملک:

☆ وہ جوہر قابل تھے ۔۔۔۔۔۔۔۔۔ پھنسے بغیر نہیں رہ سکتے۔ (صفحہ نمبر ۷۷)

☆ تقریر کے وقت منہ سے پھول ۔۔۔۔۔۔ مخالف بھی مان جاتے تھے (صفحہ نمبر ۷۹)

☆ ہمارے ملک میں خوشامدیوں ۔۔۔۔۔۔۔ منصب سے محروم ہو جاتا ہے (صفحہ نمبر ۷۹)

☆ دوسروں سے کام لینے ۔۔۔۔۔۔۔۔ خوشی خوشی ان کا کام کرتے تھے (صفحہ نمبر ۸۰)

عزم وجزم:

☆ تمام سویلائزڈ ملکوں ۔۔۔۔۔۔۔۔۔ تعلیم وتربیت کا بندوبست کرتے ہیں۔ (صفحہ نمبر ۱۰۴)

☆ کوئی زمانہ انسان پر ۔۔۔۔۔۔۔۔۔ میں وہی ہوں گا جو میرا باپ ہے۔ (صفحہ نمبر ۱۰۵)

سوال نمبر۳: اشعار کی تشریحات:

میر تقی میر غزل نمبر۱: بات کی طرز کو دیکھو تو کوئی جادو تھا — پر ملی خاک میں کیا سحر بیانی اس کی

میر تقی میر غزل نمبر۲:

جس سر کو غرور آج ہے یاں تاجوری کا — کل اس پہ یہیں شور ہے پھر نوحہ گری کا
آفاق کی منزل سے گیا کون سلامت — اسباب لٹا راہ میں یاں ہر سفری کا
زنداں میں بھی شورش نہ گئی اپنے جنون کی — اب سنگ مداوا ہے اس آشفتہ سری کا
لے سانس بھی آہستہ کہ نازک ہے بہت کام — آفاق کی اس کارگہہ شیشہ گری کا

خواجہ میر درد غزل نمبر۱:

مدرسہ یا دیر تھا یا کعبہ یا بت خانہ تھا — ہم سبھی مہمان تھے واں بس تو ہی صاحب خانہ تھا
وائے نادانی کہ وقت مرگ یہ ثابت ہوا — خواب تھا جو کچھ کہ دیکھا جو سنا افسانہ تھا
ہو گیا مہماں سرائے کثرت موہوم آہ — وہ دل خالی کہ تیرا خاص خلوت خانہ تھا

خواجہ میر درد غزل نمبر۲:

تیرا ہی حسن جگ میں ہر چند موجزن ہے — تس پر بھی تشنہ کام دیدار ہیں تو ہم ہیں

مرزا غالب غزل نمبر۱:

ہوئی تاخیر تو کچھ باعث تاخیر بھی تھا — آپ آتے تھے مگر کوئی عناں گیر بھی تھا
تم سے بے جا ہے مجھے اپنی تباہی کا گلا — اس میں کچھ شائبہ خوبی تقدیر بھی تھا
یوسف اس کو کہوں، اور کچھ نہ کہے خیر ہوئی — گر بگڑ بیٹھے تو میں لائق تعزیر بھی تھا
پکڑے جاتے ہیں فرشتوں کے لکھے پر ناحق — آدمی کوئی ہمارا دم تحریر بھی تھا

مرزا غالب غزل نمبر۲:

آتش دوزخ میں یہ گرمی کہاں؟ سوز غم ہائے نہانی اور ہے

مومن خان مومن غزل نمبر۱:

منت حضرت عیسیٰ نہ اٹھائیں گے کبھی زندگی کیلئے شرمندہ احساں ہوں گے؟
پھر بہار آئی وہی دشت نوردی ہوگی پھر وہی پاؤں وہی خار مغیلاں ہوں گے

مومن خان مومن غزل نمبر۲:

چمن میں کوئی اس کو سے نہ آیا گئی برباد سب محنت صبا کی

الطاف حسین حالی غزل نمبر۱:

ہوتی نہیں قبول دعا ترک عشق کی دل چاہتا نہ ہو تو زباں میں اثر کہاں

الطاف حسین حالی غزل نمبر۲:

واعظو! آتش دوزخ سے جہاں کو تم نے وہ ڈرایا ہے کہ خود بن گئے ڈر کی صورت

علامہ اقبال غزل نمبر۱:

افلاک سے آتا ہے نالوں کا جواب آخر کرتے ہیں خطاب آخر اٹھتے ہیں حجاب آخر
میں تجھ کو بتاتا ہوں تقدیر امم کیا ہے شمشیر و سناں اول طاؤس و رباب آخر

سوال نمبر۴ (الف) مندرجہ ذیل میں سے کسی ایک جز کی تشریح کریں۔

(ب) تشریح کردہ جز کی نظم کا نام تحریر کریں۔

(ج) تشریح کردہ جز کے شاعر کا نام تحریر کریں۔

(۱) سلام اے صاحب خلق عظیم ﷺ انساں کو سکھلا دے یہی اعمال پاکیزہ یہی اشعال روحانی
تری صورت تیری سیرت ترا نقشہ ترا جلوہ تبسم، گفتگو، بندہ نوازی، خندہ پیشانی
اگرچہ فقر فخری رتبہ ہے تری قناعت کا مگر قدموں تلے ہے فر کسرائی و خاقانی

(۲) اماں کی تھی بیٹی کی جدائی میں یہ حالت چیخوں میں ڈھلے جاتے تھے جذبات محبت
تھا باپ کا یہ حال کہ اندوہ کا سارا اٹھتا تھا تو دیوار کا لیتا تھا سہارا
لڑکی کا یہ عالم تھا کہ آپ کو سمیٹے گڑیا سی بنی بیٹھی تھی چادر کو لپیٹے

یا

(الف) مندرجہ ذیل میں سے کسی ایک نظم کا مرکزی خیال تحریر کریں۔

(ب) منتخب کردہ نظم کے شاعر کا نام تحریر کریں۔

(ج) منتخب کردہ نظم کے شاعر کا مختصر تعارف تحریر کریں۔

(۱) شکست زنداں کا خواب (۲) جشن بے چارگی (۳) فاطمۃ الزہرہ کی رخصتی (۴) اکبر و مغربی تعلیم

سوال نمبر۵ (الف) مندرجہ ذیل میں سے کسی ایک کا خلاصہ تحریر کریں۔

(ب) منتخب کردہ مضمون کے مصنف کا نام تحریر کریں۔

(ج) منتخب کردہ مضمون کے مصنف کا مختصر تعارف تحریر کریں۔

(۱) مجسمہ (۲) آرام و سکون (۳) نیا قانون (۴) چور

سوال نمبر۶: اردو ڈرامہ نگاری کا ارتقاء یا اردو افسانہ نگاری کی تاریخ۔

سوال نمبر۷: نثر نگاری کی تحریر کی خصوصیات۔

(۱) رشید احمد صدیقی (۲) مولوی عبدالحق (۳) الطاف حسین حالی (۴) سر سید احمد خان

سوال نمبر۸: شاعری پر تبصرہ۔

(۱) خواجہ میر درد (۲) مرزا غالب (۳) حسرت موہانی (۴) میر تقی میر

ڈھاکہ کوچنگ سینٹر

BS-15/1، فیڈرل بی ایریا، کریم آباد، کراچی۔

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اہم ضروری سوالات برائے امتحان ۲۰۱۹ء

پرچہ: مطالعہ پاکستان (سائنس / کامرس) جماعت: بارہویں

بیانیہ سوالات

۱۔ پاکستانی ثقافت کے نمایاں خدوخال واضح کریں؟

1. Explain teh Salient features of Pakistan culture?

۲۔ 1940 سے 1947 تک اہمی سیاسی حالات وواقعات بیان کریں؟

2. Describe teh important potitical events that took place between 1940 to 1947?

۳۔ پاکستان کی خارجہ پالیسی کے بنیادی اصولوں پر بحث کریں؟

3. Describe the basic principles of teh foreign policy of Pakistan?

۴۔ قیام پاکستان کے اغراض ومقاصد تحریر کریں؟

4. Wrie a comprehensive note on the aims and objectives for the establishment of Pakistan?

۵۔ قائداعظم کے ارشادات کی روشنی میں نظریہ پاکستان کی وضاحت کریں؟

5. Describe teh ideology of Pakistan in teh light of Quaid-e-Azma's statement?

۶۔ پاکستان کی قومی یکجہتی میں اردو زبان کا کردار بیان کریں؟

6. Describe the role of Urdu in teh National integration of Pakistan?

۷۔ اپنے قیام کے فوراً بعد پاکستان کو کن مسائل کا سامنا کرنا پڑا؟

7. What wer5e the problems faced by Pakistan soon after its creation?

مختصر سوالات

۱۔ پاکستان کو درپیش چار ابتدائی مسائل بیان کریں؟

1. Point out any four initial problems faced by Pakistan?

۲۔ پاکتان کی خارجہ پالیسی کے چار بنیادی اصول بیان کریں؟

2. Describe any four basic principles of Pakistan foreign policy?

۳۔ قومی یکجہتی میں اردو زبان کا کردار بیان کریں؟

3. Explain teh importance of urdu language in national integration of Pakistan?

۴۔ پاکستان کی ثقافت کے پانچ نمایاں خدوخال بیان کریں؟

4. Write any five important features of Pakistani culture.

۵۔ دوقومی نظریہ پر چار جملے تحریر کریں؟

5. Write four sentences on two nation theory?

۶۔ پاکستان کی جغرافیائی اہمیت بیان کریں؟

6. Describe the geographical importance of Pakistan?

۷۔ سندھی زبان کے بارے میں آپ کیا جانتے ہیں؟

7. What do you know about teh Sindhi language.

۸۔ تحریک خلافت کے مقاصد بیان کریں؟

8. Describe teh objectives of Khilafat movement.

۹۔ تحریک علی گڑھ کے متعلق آپ کیا جانتے ہیں؟

9. What do you know about Aligarh Movement?

۱۰۔ پاکستان کے اہم قدرتی وسائل بیان کریں؟

10. What are the important Natural resources of Pakistan?

۱۱۔ پاکستان کی معیشت میں زراعت کی اہمیت پر چار جملے تحریر کریں؟

11. Write four lines on teh importance of agriculture in the economy of Pakistan?

۱۲۔ سندھ طاس معاہدے سے کیا مراد ہے؟

12. What was the Indus Basin Treaty?

۱۳۔ 1973 کے آئین کی چار اسلامی دفعات تحریر کریں؟

13. Write five Islamic Provisions of teh constitution of 1973?

۱۴۔ قرارداد مقاصد 1949 پر چار جملے تحریر کریں؟

14. Write four lines on Objectives Resolutions 1949?

۱۵۔ جنوبی ایشیاء کے چار صوفیائے کرام کے نام تحریر کریں؟

15. Write the four Sufi Saints of South Asia?