

Total Marks 200

507

# CHEMISTRY

(English Medium)

Category

A

507-CHEMISTRY

A50700711

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Seat No. of the Candidate

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Block No. of the Candidate

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Signature of the Candidate

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Signature of the Block Supervisor

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### Important Instructions for Candidates

- (1) Please do not open the question booklet until you are told to do so.
- (2) During examination, if a candidate is found having any literature guide, guide, piece of paper, handwritten or printed paper, mobile phone, calculator, spy camera, headphone or any other equipments then the candidate will be considered as disqualified.
- (3) During the examination if candidates are found conversing with each other, making noise or not following supervisor's instructions then they will be considered as disqualified.
- (4) After receiving question paper please write your seat number in **OMR SHEET** at the correct given place.
- (5) Please do not write your seat number at any other place than the allotted one in the **OMR SHEET** and if any sign of your identity or recognition is found then you will be considered totally disqualified for the examination.
- (6) Signatures of both the supervisor and the candidate in the certificate of **OMR SHEET** are compulsory without which **OMR SHEET** will not be evaluated, so it is compulsory for the candidate to get signature of the supervisor.
- (7) Candidates can use blue/black ball pen. They cannot use pens or pencils of any other colour and also whitener.
- (8) No marks should be made on any of the options in the question paper.
- (9) There are total 200 questions in this question paper. There is only one answer to each question from the options A, B, C and D. Four options are given for each question. All the questions are compulsory. Example: What is the capital of Gujarat?  
(A) Ahmedabad (B) Gandhinagar (C) Vadnagar (D) Patan  
Here, if option (B) Gandhinagar is correct then option (B) in the **OMR SHEET** will have to be darkened with pen. (A) (B) (C) (D)
- (10) One(1) mark is allotted to each correct answer. For each wrong answer 0.25 marks will be deducted. If a candidate does not want to answer any question then he/she will have to select option E. Negative marking will not be applicable for option E.
- (11) Cross marked answers, answers given on more than one option and answers re-marked after use of blade, eraser or whitener will be given **Negative 0.25 marks**.
- (12) Please hand over the **OMR SHEET** to the block supervisor after completion of examination before leaving the classroom. Any candidate failing to do so will be considered as disqualified for the examination.
- (13) Maximum time allotted for the examination is 180 minutes.
- (14) Most appropriate option will be considered as answer of the question.

- (1) How many Indian languages have been declared endangered by UNESCO  
(A) 195 (B) 196 (C) 189 (D) 197
- (2) The National Education Policy (NEP) 2020, integrates \_\_\_\_ to root education in ancient knowledge of India and its contribution in modern India.  
(A) Knowledgeable India (B) Indian Knowledge System  
(C) Modern India (D) Ancient India
- (3) The full form of PARAKH is \_\_\_\_\_.  
(A) Private Assessment, Report and Analysis of Knowledge for Holistic  
(B) Performance Assessment, Review and Analysis of Knowledge for Holistic development  
(C) Performance Assistant, Review and Analysis of knowledge for Holistic development  
(D) Personal Assistant, Review and Analysis of Knowledge for Holistic development.
- (4) A scientist of Indian origin who made groundbreaking contribution in the study of DNA was \_\_\_\_\_.  
(A) Radha Krushnan (B) Amartya Sen  
(C) Hargovind Khurana (D) Dr. A.P.J. Abdul Kalam
- (5) The Three Tier Panchayati Raj System was recommended by \_\_\_\_\_.  
(A) Mactapl Committee (B) British Committee  
(C) Sevak Committee (D) Balwantrai Mehta Committee
- (6) Commonwealth Games were previously known as \_\_\_\_\_.  
(A) European Games (B) Euro – Asian Games  
(C) Common Games (D) British Empire Games
- (7) Who appoints CAG?  
(A) Prime Minister (B) President  
(C) Vice-President (D) Chief – Minister
- (8) The battle between Porus and Sikander was fought on the bank of \_\_\_\_\_ river.  
(A) Chenab (B) Ravi  
(C) Satluj (D) Jhelum

- (9) "Who among the following reigned during the Anno Domini Period?"  
(A) Chandragupt Maurya (B) King Ashok  
(C) Khilji Dynasty and Tughlaq Dynasty (D) Bindusara
- (10) \_\_\_\_\_ is the most renowned form of dance of Maharashtra.  
(A) Ghumar (B) Kalbeliya  
(C) Kachhighodi (D) Laavani
- (11) \_\_\_\_\_ was invented by Michael Faraday?  
(A) Penicillin  
(B) Periodic Table  
(C) Precious Metal - Radium  
(D) Conversion of Kinetic Energy into Electric energy
- (12) \_\_\_\_\_ among the following was written by Manubhai Pancholi (Darshak)  
(A) Upanas (B) Socrates  
(C) Anunay (D) Hayanti
- (13) Anup Kumar is a renowned \_\_\_\_\_ player.  
(A) Kho - Kho (B) Kabaddi  
(C) Cricket (D) Football
- (14) \_\_\_\_\_ was Suggested by Swami Vivekanand to Promote nationalism in India.  
(A) Pride of the nation  
(B) Public awareness and upliftment of the poor  
(C) Inclusive Vision  
(D) Cultural Pride
- (15) \_\_\_\_\_ is not a renewable energy resource.  
(A) Forest (B) Wind  
(C) Natural Gas (D) Sunlight

- (16) \_\_\_\_\_ was considered as the “Soul of Indian constitution” by Dr. B. R. Ambedkar.
- (A) Right to Education
  - (B) Cultural and Educational Right
  - (C) Right to go against exploitation
  - (D) Right to the Constitutional Remedies
- (17) Panchayati Raj Institutions came to exist on \_\_\_\_\_ in Gujarat.
- (A) 1st May, 1960
  - (B) 20th April, 1993
  - (C) 15th August, 1947
  - (D) 1st April, 1963
- (18) \_\_\_\_\_ is not founded by the Government to implement the recommendations of Mudaliar Commission 1953.
- (A) Rural Higher Education Committee
  - (B) University Grants Commission
  - (C) All India Education Council
  - (D) All India Council of Sports
- (19) Astronaut Sunita Williams has an ancestral link with \_\_\_\_\_.
- (A) Karnal, Haryana
  - (B) Vadodara, Gujarat
  - (C) Mahesana, Gujarat
  - (D) Kurukshetra, Haryana
- (20) \_\_\_\_\_ hosted the Kabaddi World Cup 2025.
- (A) India
  - (B) England
  - (C) South Korea
  - (D) Malaysia
- (21) Open and Distance Learning (ODL) is included in \_\_\_\_\_ education.
- (A) Formal
  - (B) Informal
  - (C) Non-formal
  - (D) None of the above
- (22) “I never teach my pupils; I only attempt to provide the conditions in which they can learn” who quoted it?
- (A) Maharshi Arvind
  - (B) Albert Einstein
  - (C) Pestology
  - (D) Eric Crome

- (23) "A person must use the development of his individuality by aligning it to the social needs and ideals. This is \_\_\_\_\_ aim of education.
- (A) an Individual (B) a Social  
(C) a Peculiar (D) a Sovereign
- (24) \_\_\_\_\_ described education as a tri-polar process consisting of the teacher the learner the social environment or syllabus as a third pole".
- (A) John Dewey (B) John Adams  
(C) Herbert Spencer (D) Benjamin S. Bloom
- (25) Idealism is also known as \_\_\_\_\_.
- (A) Idealism (B) Realism  
(C) Naturalism (D) Pragmatism
- (26) John Dewey, Kilpatrick, and Mahatma Gandhi advocated \_\_\_\_\_.
- (A) Existentialism (B) Naturalism  
(C) Idealism (D) Pragmatism
- (27) Social and National Integration can be attained through \_\_\_\_\_.
- (A) Joint Family (B) Requirement of Food  
(C) Democracy (D) Population growth
- (28) What kind of education enables human to utilize free time more joyful and productive activities?
- (A) Non-formal Education  
(B) Continuing Education  
(C) Life-long Education  
(D) Education through correspondence
- (29) The cultural objective of education emphasizes on \_\_\_\_\_.
- (A) to enrich a person with knowledge  
(B) to inculcate ideals and morals in life  
(C) to Transfer Knowledge, Art, Literature, Music from generation to generation.  
(D) to enable a person to earn livelihood

- (30) "Human bears the competency of adapting to the situation and adapting one's needs to the situation" \_\_\_\_ form of pragmatism supports it.
- (A) Nominalistic Pragmatism (B) Experimental Pragmatism  
(C) Biological Pragmatism (D) Humanistic Pragmatism
- (31) A person with IQ score 100, is placed in \_\_\_\_ category.
- (A) Average Intelligence (B) High Intelligence  
(C) Lower Intelligence (D) Superior Intelligence
- (32) \_\_\_\_ type of Psychological conflict do Students Face when they neither want to stay at home nor go to school?
- (A) Approach – Avoidance (B) Approach – Approach  
(C) Avoidance – Avoidance (D) Dual Approach Avoidance
- (33) A Psychologist who believed that "Motivation is cyclic"
- (A) Lipid (B) C.T. Morgan  
(C) Lewin (D) Emilicuma
- (34) Which test is used to detect mental retardation among children?
- (A) Achievement Test (B) Reading Test  
(C) Through General Observation (D) Intelligence Test
- (35) The full form of GATB is \_\_\_\_.
- (A) Great Attitude Test Box  
(B) Global Attitude Test Book  
(C) Global Aptitude Test Book  
(D) General Aptitude Test Battery
- (36) \_\_\_\_ is placed the first among eight stages of Robert Gagne's approach.
- (A) Stimulus – Response Approach  
(B) Verbal – Association Approach  
(C) Problem – Solving Approach  
(D) Chaining Approach

- (37) "Trial and Error Principle" of Thorndike is known as \_\_\_\_.
- (A) Stimulus – Response Approach
  - (B) Theory of operant conditioning
  - (C) Cognitive Learning Theory
  - (D) Principle of motivation
- (38) After fulfilling basic Physiological need, the next level in Maslow's Hierarchy of needs is \_\_\_\_.
- (A) Love and Belongingness
  - (B) Esteem Needs
  - (C) Self – Actualization needs
  - (D) Safety Needs
- (39) The measurement of intelligence was first successfully introduced by \_\_\_\_.
- (A) Garrett and Menttest
  - (B) Binet and Simon
  - (C) Crow and Crow
  - (D) Thurston and Spareman
- (40) The learning graph remains extended and horizontal during \_\_\_\_ temporary stage.
- (A) Learning
  - (B) Maturity
  - (C) Plateau
  - (D) End
- (41) To counsel a student towards the most suitable field of learning and future profession, educator usually rely on \_\_\_\_ test.
- (A) Intelligence Test
  - (B) Personality Measurement Test
  - (C) Aptitude Test
  - (D) Diagnostic Test
- (42) To enable a student to develop their creativity fully and completely, maximum importance should be given to \_\_\_\_.
- (A) Process
  - (B) Idea
  - (C) Excellence
  - (D) Creativity
- (43) While framing the teaching method in curriculum development, \_\_\_\_ state of students require prior consideration.
- (A) Mental
  - (B) Physical
  - (C) Emotional
  - (D) Holistic

- (44) \_\_\_\_\_ is Pre-requisite in order to promote concentration in Students.
- (A) Proficiency of Teacher  
(B) Selection of proper method, congruent to the unit  
(C) Age level  
(D) Mental level
- (45) Any action that is derived from internal motivation and different from temptation is called \_\_\_\_.
- (A) Improper (B) Motivation  
(C) Eligibility (D) Distress
- (46) Classroom behaviour generally observes total \_\_\_\_\_ types of interactions.
- (A) Five (B) Two  
(C) Three (D) One
- (47) Bakum developed an evaluation process to measure \_\_\_\_\_ development of student.
- (A) Physical (B) Mental  
(C) Holistic (D) Social
- (48) \_\_\_\_\_ has released an education from the bandage of Time, Collection and number.
- (A) Internet (B) Technology  
(C) Website (D) Open University
- (49) The research that scientifically studies the daily problems of the school is called, \_\_\_\_\_ research.
- (A) Pragmatic (B) Action  
(C) Conditioning (D) Visiting
- (50) To find out the mid-point of the given group, \_\_\_\_\_ is calculated
- (A) Median (B) Mode  
(C) Mean (D) Any of the above
- (51) \_\_\_\_\_ is also known as Skinnerian Instruction.
- (A) Branchial Instruction (B) Linear Instruction  
(C) Mathematical Instruction (D) All of the above

(52) Ned Flanders' Interaction analysis categories comprises Ten main categories, out of that three are..

(i) Teacher's Talk

(ii) Pupil's Talk

(iii) Silence

Which of the following shows the correct order?

(A) (i) 7 (ii) 1 (iii) 2

(B) (i) 4 (ii) 4 (iii) 2

(C) (i) 6 (ii) 3 (iii) 1

(D) (i) 7 (ii) 2 (iii) 1

(53) \_\_\_\_\_ is a correct formula for calculating Percentile Rate.

(A)  $PR = 100 - \frac{(100R - 50)}{N}$

(B)  $PR = 100 \frac{(100R - 50)}{N}$

(C)  $PR = 100 - \frac{(50R - 100)}{N}$

(D)  $PR = 1 - \frac{(100R - 50)}{N}$

(54) \_\_\_\_\_ is a correct mean of 6, 9, 10, 12, 16, 17.

(A) 10

(B) 11

(C) 17

(D) 12

(55) "Teacher uses the change in gestures, modulation of voice and hands' movement so that students stay focused" – This is mainly applied in \_\_\_\_\_ skill.

(A) Introductory

(B) Illustration

(C) Learning aids Experiment Skill

(D) Stimulus change

(56) \_\_\_\_\_ will replace the (?)

3000, 1500, 500, 125, (?)

(A) 100

(B) 50

(C) 25

(D) 20

(57) 'A' is the sister of 'B'. 'C' is the mother of 'B'. 'D' is the father of 'C'. Then D is the \_\_\_\_\_ of A.

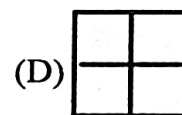
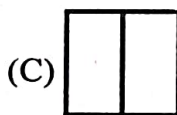
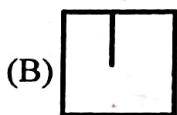
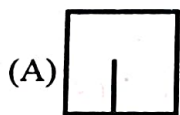
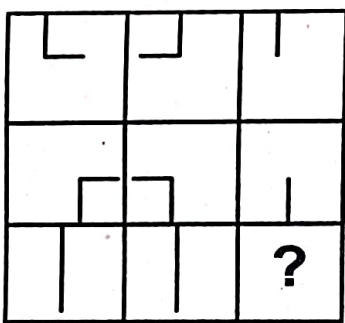
(A) Maternal Uncle (Mama)

(B) Father

(C) Maternal Uncle (Maasa)

(D) Maternal Grandfather

- (58) \_\_\_\_\_ among the following cannot be framed by using the letter of word  
 "INDEPENDENCE"
- (A) NICE (B) PINE  
 (C) PENDING (D) INDEED
- (59) Kavya begins to walk to the south from point A. She turns left after walking 30 metres. Then she walks 40 metres straight and reaches the point 'B'. Now find the distance between 'A' and 'B'.
- (A) 50 metres (B) 35 metres  
 (C) 70 metres (D) 120 metres
- (60) If  $B=2$ ,  $BAG = 10$  then find the value of  $BOX$ .
- (A) 11 (B) 12  
 (C) 41 (D) 42
- (61) Find the correct odd one from the following.
- (A) DEGJ (B) MNPS  
 (C) PQTX (D) TUWZ
- (62) Five friends are sitting in a line, A is sitting right to B, but not sitting the first. C is sitting left to D. If B is sitting right to E then who is exactly in the middle?
- (A) A (B) B (C) D (D) E
- (63) Figure is given. \_\_\_\_\_ among the option correctly replaces (?).



- (64) 34, 18, 10, 6, 4, \_\_\_\_\_.
- (A) 0 (B) 1 (C) 2 (D) 3
- (65) If DOG is coded as '4157' Then LION will be \_\_\_\_\_.
- (A) 1271514 (B) 1291514  
(C) 1291312 (D) 1181514
- (66) There are total 65 students in a line. A stands 36th from the left, B stands 36th from the right then to \_\_\_\_\_ students must be standing between both A and B.
- (A) 9 (B) 13  
(C) 15 (D) 11
- (67) \_\_\_\_\_ will replace the (?)
- The diagram consists of a central circle with a question mark '?' inside. Surrounding this central circle are four other circles, each containing a number: '15' to the left, '6' directly below, '3' to the right, and '19' below the '6'.
- (A) 91 (B) 610  
(C) 691 (D) 587
- (68) Thermometer : Temperature :: Earthquake : \_\_\_\_\_.
- (A) Scale (B) Seismograph  
(C) Anemometer (D) Odometer
- (69) The angle formed by the minute and hour hands at 4:00 pm is \_\_\_\_\_.
- (A) 120° (B) 100°  
(C) 80° (D) 60°
- (70) \_\_\_\_\_ among the following will stay first if arranged in alphabetical order.
- (A) Overbid (B) Outstanding  
(C) Oval (D) Outstep

- (71) કયા વાક્યમાં અવ્યયનો ઉપયોગ થતો નથી ?
- (A) તે પાસ થયો કેમ કે તેણે ખૂબ મહેનત કરેલી. (B) શાબાશ છે એ બહાદૂર જુવાનને !
- (C) એ પ્રાણઘાતક અકસ્માતથી તે મરી જાત. (D) એ ચોરની પેઠે ઘરમાં ધૂસ્યો.
- (72) કયું વાક્ય કર્મણિ પ્રયોગમાં નથી ?
- (A) તને વિમાન દેખાય છે ? (B) મેં શીષસિન કર્યું.
- (C) મને વાત સમજાય છે. (D) મારે આસને બેસવું છે.
- (73) A સાથે Bનાં સાચાં જોડકાં દર્શાવતો વિકલ્પ કયો છે ?
- | A                        | B                  |
|--------------------------|--------------------|
| (a) લખવાનું આપોને        | (i) ભવિષ્યકૃદંત    |
| (b) માગ્યા મેહ વરસે નહીં | (ii) સંબંધક ભૂ.કૃ. |
| (c) લખી લખીને થાક્યો     | (iii) હેત્વર્થ     |
| (d) વાંચવા આવજો          | (iv) ભૂતકૃદંત      |
- (A) (a) i, (d) ii, (b) iii, (c) iv (B) (b) i, (c) ii, (d) iii, (a) iv
- (C) (c) i, (b) ii, (d) iii, (a) iv (D) (a) i, (c) ii, (d) iii, (b) iv
- (74) કયા જોડકામાંના શબ્દો એક પ્રકારનો જ સમાસ દર્શાવે છે ?
- (A) તપોધન, પાઠ્યેતર (B) ધનશ્યામ, કાપુરુષ
- (C) કલ્પલતા, શ્રીયુત (D) શેષશાયી, સ્વચ્છંદ
- (75) એ શબ્દ શોધો કે જેનો અર્થ અન્ય કરતાં ભિન્ન છે.
- (A) પુંડરિક (B) પર્યક (C) રાજીવ (D) શતદલ
- (76) સાચી જોડણી પસંદ કરો.
- (A) હિમસૂતા (B) હીમસુતા
- (C) હીમસૂતા (D) હિમસુતા
- (77) એ, થી, થકી, વડે વગેરે પ્રત્યયો કઈ વિભક્તિમાં આવે છે ?
- (A) સંપ્રદાન (B) અપાદાન
- (C) સંબંધ (D) કરણ
- (78) પોતાની વાતને કે વિષયને સ્પષ્ટ કરવાનો પ્રયત્ન કરતા ગદ્યને કયા પ્રકારનું ગદ્ય કહેવામાં આવે છે ?
- (A) વાદાત્મક (B) વિવરણાત્મક
- (C) વર્ણનાત્મક (D) ભાવાત્મક

- (79) તમતમારે, જુદાજુદા, દૂરદૂરથી વગેરે કયા પ્રકારના શબ્દો છે ?  
 (A) નામયોગી શબ્દો (B) સંયુક્ત શબ્દો  
 (C) સામાસિક શબ્દો (D) દ્વિરુક્તિવાળા શબ્દો
- (80) નીચેનામાંથી પરિમાણવાચક વિશેષણ જણાવો.  
 (A) આટલું (B) આવું  
 (C) કડવું (D) પહેલું
- (81) નીચેનામાંથી કયા વિકલ્પમાં તમામ શબ્દોની જોડણી વ્યાકરણની દૃષ્ટિએ સંપૂર્ણ સાચી છે ?  
 (A) શારીરિક, આશીર્વાદ, જિજ્ઞાસા, સુશ્રુષા  
 (B) શારીરિક, આશીર્વાદ, જિજ્ઞાસા, શુશ્રુષા  
 (C) શારીરિક, આશિર્વાદ, જિજ્ઞાસા, શુશ્રુષા  
 (D) શારીરિક, આશિર્વાદ, જિજ્ઞાસા, શુશ્રુષા
- (82) નીચેનામાંથી કયો શબ્દ 'અશ્વ'નો પર્યાયવાચી શબ્દ નથી ?  
 (A) હાય (B) વાજ  
 (C) તોખાર (D) કુંજર
- (83) વાક્યશુદ્ધિના નિયમ અનુસાર નીચેનામાંથી વ્યાકરણની દૃષ્ટિએ શુદ્ધ વાક્ય પસંદ કરો.  
 (A) મેં આજે એક ગાય અને એક બળદને આવતી જોઈ.  
 (B) મેં આજે એક ગાય અને એક બળદ આવતાં જોયાં.  
 (C) મેં આજે એક ગાય અને એક બળદ આવતા જોયો.  
 (D) મેં આજે એક ગાય અને બળદને આવતી જોઈ.
- (84) નીચેના વાક્યમાં વ્યાકરણીય રીતે કયો શબ્દપ્રયોગ ખોટો છે ? "તેણે મને સહૃદયતાપૂર્વક આવકાર આપ્યો."  
 (A) તેણે  
 (B) સહૃદયતાપૂર્વક  
 (C) આવકાર  
 (D) આપ્યો
- (85) લેખનકાર્ય કરતી વખતે વાક્યના અંતે કે વચ્ચે કોઈ વિગત લખવાની બાકી રહી ગઈ હોય, ત્યારે તેને ઉમેરવા માટે કયા ચિહ્નનો ઉપયોગ થાય છે ?  
 (A) લોપચિહ્ન (') (B) કાકપદ / હંસપદ (^)  
 (C) લઘુરેખા (-) (D) ફુદડી (\*)

(86) Pair the words with their antonyms.

Words

Antonyms

(a) lazy

(i) diligent

(b) active

(ii) blunt

(c) sharp

(iii) inert

(d) fertile

(iv) barren

(A) (c) i, (d) ii, (a) iii, (b) iv

(B) (a) ii, (c) iii, (b) i, (d) iv

(C) (c) ii, (d) i, (b) iii, (a) iv

(D) (a) i, (d) iii, (c) ii, (b) iv

(87) Which word has no suffix.

(A) Health

(B) Library

(C) Embrace

(D) Marriage

(88) Find out the odd pair.

(A) proud - pride

(B) bond - bind

(C) grieve - grief

(D) lose - loss

(89) Arrange these sentences in proper order to describe an accident-scene.

(i) Passengers were told to be ready to quit the ship.

(ii) Everyone knew there was fire on board.

(iii) Smoke oozed up between the planks.

(iv) Flames broke out here and there.

(v) Most people bore the shock bravely.

(A) iii, ii, v, iv, i

(B) i, ii, iv, iii, v

(C) iv, iii, ii, v, i

(D) iii, iv, ii, i, v

(90) Select the sentence with almost similar meaning to the sentence "At the moment the duck looked exhausted."

(A) The duck looked dreadful

(B) The duck was looking for a place to hide

(C) The duck looked very tired.

(D) The duck seemed unhappy.

(91) Put proper preposition in the blank. He was looking ..... his lost keys.

(A) at

(B) for

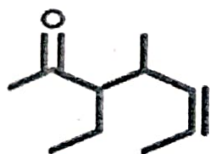
(C) after

(D) into

- (92) ..... he finds a job, his family will starve. Fill in the blank with proper word.  
 (A) If (B) Unless (C) As (D) However
- (93) The harder you work, the ..... result you will get.  
 (A) good (B) best  
 (C) better (D) lower
- (94) Select the similar word for Inventory.  
 (A) Summary (B) Schedule  
 (C) Index (D) Questionnaire
- (95) All the crows are black. We ..... find a white crow, put proper adverb to complete the sentence.  
 (A) frequently (B) usually  
 (C) rarely (D) always
- (96) Which expression best conveys the idea ?  
 (A) During the curfew, the streets wearing desolate look.  
 (B) During the curfew, the streets wore a desolate look.  
 (C) During the curfew, the streets have had worn desolate looks  
 (D) During the curfew, the streets has been wearing desolation looks
- (97) What is the correct noun form of the verb 'compel' ?  
 (A) Compelation (B) Compulsion  
 (C) Compulsory (D) Compellment
- (98) Fill in the blank with the correct preposition : "The committee is totally opposed ..... the new proposal."  
 (A) for (B) against  
 (C) to (D) with
- (99) Fill in the blanks with appropriate articles : "He is ..... heir to the throne and ..... honest man."  
 (A) a, a (B) an, a (C) an, an (D) the, a
- (100) Identify the correct verb according to subject-verb Agreement : "Neither the principal nor the teachers ..... present at the meeting yesterday."  
 (A) was (B) were (C) are (D) is

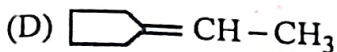
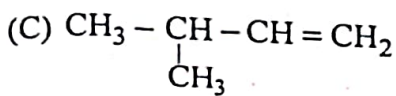
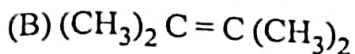
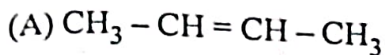
- (101) Calcium carbide on reacting with water gives.
- (A) Methane (B) Ethane  
(C) Ethanol (D) Acetylene
- (102) When acetylene is passed into dilute sulphuric acid containing  $\text{Hg}^{2+}$  ions, the product formed is
- (A) Acetone (B) Acetic acid  
(C) Acetaldehyde (D) Formaldehyde
- (103) 0.395g of an organic compound by curios method for estimation of 'S' gave 0.582 g of  $\text{BaSO}_4$ . The percentage of 'S' in the compound is-
- (A) 35.62% (B) 20.24%  
(C) 40.65% (D) 12.24%
- (104) The increasing electron releasing tendencies of Cu, Ag and Zn are in the order.
- (A)  $\text{Zn} > \text{Cu} > \text{Ag}$  (B)  $\text{Ag} > \text{Cu} > \text{Zn}$   
(C)  $\text{Cu} < \text{Ag} > \text{Zn}$  (D)  $\text{Zn} > \text{Ag} > \text{Cu}$
- (105) If  $Q_C < K_C$ , the reaction will
- (A) Move forward (B) Move backward  
(C) Be of equilibrium (D) Stop
- (106) If  $\Delta H = 35.5 \text{ KJ/mol}$  and  $\Delta S = 83.6 \text{ J/K}$ . At what temperature the reaction will be spontaneous.
- (A)  $T > 425\text{K}$  (B) At each temperature  
(C)  $T > 298\text{K}$  (D)  $T < 425\text{K}$
- (107) Based on VSEPR theory the shape of  $\text{XeF}_4$  molecule is\_\_\_\_\_.
- (A) T\_Shaped (B) see\_saw  
(C) Square pyramided (D) Square planar
- (108) Which of the following oxide is Basic?
- (A)  $\text{Na}_2\text{O}$  (B)  $\text{P}_4\text{O}_{10}$   
(C)  $\text{CO}_2$  (D)  $\text{Al}_2\text{O}_3$
- (109) The splitting of spectral lines under the influence of magnetic field is called\_\_\_\_\_.
- (A) Diffraction (B) Stark effect  
(C) Photoelectric effect (D) Zeeman effect

- (110) A certain orbital has  $n = 4$  and  $M_2 = -3$ . The number of radial nodes in this orbital is \_\_\_\_\_.
- (A) 3 (B) 2 (C) 1 (D) 0
- (111) Which unit of concentration does not depend on temperature?
- (A) Formality (B) % w/v (C) Molality (D) Normality
- (112) What is mole fraction of methyl alcohol in a 5.2 molal aqueous solution of methyl alcohol,  $\text{CH}_3\text{OH}$ .
- (A) 0.1 (B) 0.19  
(C) 0.086 (D) 0.05
- (113) What is the Normal Human body temperature in  $^{\circ}\text{F}$ ?
- (A)  $98.6^{\circ}\text{F}$  (B)  $77^{\circ}\text{F}$   
(C)  $32^{\circ}\text{F}$  (D)  $212^{\circ}\text{F}$
- (114) An organic compound containing N, S, and O as extra elements is fused with Na metal and then extracted with water. The species which is not present in the solution of extract is:
- (A)  $\text{CN}^-$  (B)  $\text{NO}_3^-$   
(C)  $\text{SCN}^-$  (D)  $\text{S}^{2-}$
- (115) What is oxidation state of S in  $\text{H}_2\text{SO}_5$ ?
- (A) +12 (B) +8 (C) +10 (D) +6
- (116) During detection of Phosphorous in an organic compound, yellow precipitates are formed due to the formation of:
- (A)  $(\text{NH}_4)_3\text{PO}_4$  (B)  $(\text{NH}_4)_2\text{M}_2\text{O}_4$   
(C)  $\text{Mg}(\text{NH}_4)\text{PO}_4$  (D)  $(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{M}_2\text{O}_3$
- (117) Choose the correct IUPAC name of the molecule:



- (A) 5-Ethyl-4-methylhept-2-en-6-one  
(B) 3-Ethyl-4-methylhept-5-en-2-one  
(C) 3-ethyl-4-methylehept-5-ene-2-one  
(D) 3-ethyle-4-methylheptene-2-one

(118) Which of the following alkenes on ozonolysis gives a mixture of ketones only?



(119) IUPAC name of the co-ordination compound  $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)]^{2+}$

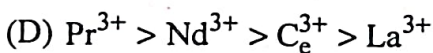
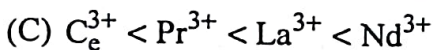
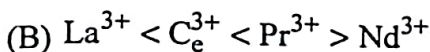
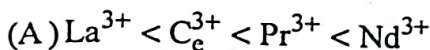
(A) Pentaamminenitrito-N-cobalt(III) ion

(B) Pentaamminenitrocobalt(III) ion

(C) Pentaamminenitro-N-cobaltate(III) ion

(D) Nitropentaammine cobalt(III) ion

(120) The basicity of  $\text{Ln}^{3+}$  ions may be expected in the order of:



(121) Calculate the standard electrode potential of  $\text{Ni}^{2+} / \text{Ni}^{2+} (0.01\text{M}) // \text{Cu}^{2+} (0.1\text{M}) / \text{Cu}$  is

0.58V. [Given  $E_{\text{Cu}^{2+}/\text{Cu}}^{\circ} = +0.34\text{V}$ ]

(A) 0.2104

(B) -0.2104

(C) 0.89

(D) 0.60

(122) Select the species having highest electropositive character.

(A)  $E_{\text{Be}^{2+}/\text{Be}}^{\circ} = -1.85$

(B)  $E_{\text{Ba}^{2+}/\text{Ba}}^{\circ} = -2.90$

(C)  $E_{\text{Ca}^{2+}/\text{Ca}}^{\circ} = -2.87$

(D)  $E_{\text{Sn}^{4+}/\text{Sn}^{2+}}^{\circ} = +0.15$

(123) The transition in Hydrogen spectrum from 4<sup>th</sup> energy level ( $n=4$ ) to 2<sup>nd</sup> energy level ( $n=2$ ) is associated with which spectral region.

(A) Near IR

(B) Far IR

(C) UV

(D) Visible

(124) Select the incorrect set of quantum numbers.

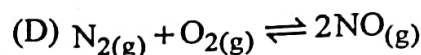
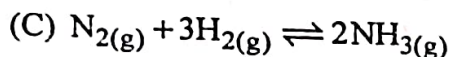
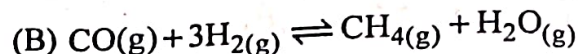
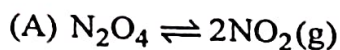
(A)  $n = 3, l = 2, m = +3, s = +\frac{1}{2}$

(B)  $n = 2, l = 0, m = 0, s = -\frac{1}{2}$

(C)  $n = 2, l = 2, m = +2, s = +\frac{1}{2}$

(D)  $n = 3, l = 2, m = +2, s = -\frac{1}{2}$

(125) Which of the following equilibriums has no effect of pressure change?



(126) 0.2 mole Ni is obtained on electrolysis of  $\text{NiSO}_4$  solution in neutral solution, how much Faraday electricity should be passed through the cell?

(A) 1F

(B) 0.2F

(C) 0.4F

(D) 0.05F

(127) If hydrogen electrode dipped into solution of  $\text{pH}=4$  and  $\text{pH}=6$  and salt bridge is connected the emf of resulting cell is \_\_\_\_\_.

(A) 0.177 V

(B) 0.059 V

(C) 0.118 V

(D) 0.104 V

(128) Standard emf of 0.59 V of galvanic cell in which 4 mole electron takes part in redox reaction. So for such reaction find out value of equilibrium constant?

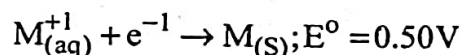
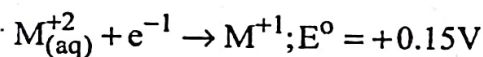
(A)  $10^{25}$

(B)  $10^{20}$

(C)  $10^4$

(D)  $10^{40}$

(129) Electrodepotential is,



Then what is the value of  $E^{\circ}_{\text{M}^{+2}/\text{M}}$ ?

(A) 0.325 V

(B) 0.65 V

(C) 0.55 V

(D) 0.15 V

(130) How much electricity is required in Faraday to produce 45 gram of Al from molten  $\text{Al}_2\text{O}_3$ ?

(A) 4

(B) 5

(C) 3

(D) 6

(131) What is rate of reaction order of the following reaction?

$$\text{Rate} = k[\text{X}]^{\frac{3}{5}}[\text{Y}]^{\frac{1}{5}}$$

(A) 1

(B)  $\frac{2}{5}$

(C)  $\frac{5}{6}$

(D)  $\frac{4}{5}$

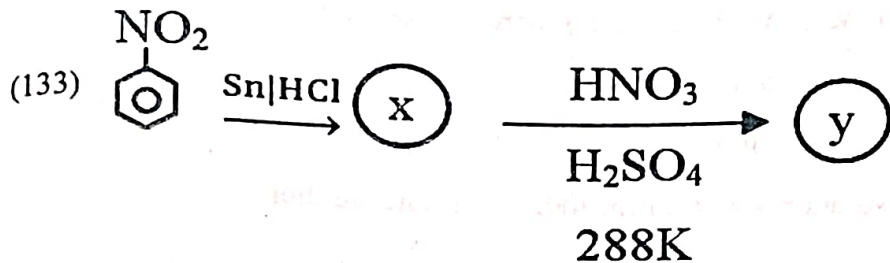
(132) When in a reaction concentration of reactant 16 times increases then rate of reaction is doubled then what is order of reaction?

(A) First

(B)  $\frac{1}{3}$

(C)  $\frac{1}{4}$

(D)  $\frac{1}{2}$



If amount of 'y' is 47% then give name of the product (y).

(A) O-Nitroaniline

(B) P-Nitroaniline

(C) m-Nitroaniline

(D) None of the above

(134) Which of the following lanthanoids shows +4 oxidation state to acquire noble gas configuration?

(A) Yb

(B) Ce

(C) La

(D) Eu

(135) Which complex has the maximum conductivity in its aqueous solution?

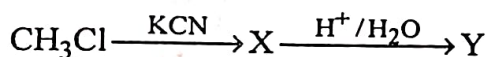
(A)  $K_3[Fe(CN)_6]$

(B)  $Fe_3[Fe(CN)_6]_2$

(C)  $(NH_4)_2[MoO_4]$

(D)  $K_2[Cr_2O_7]$

(136) In the following reactions, the final product Y is \_\_\_\_\_.



(A)  $CH_3COOH$

(B)  $CH_3NH_2$

(C)  $CH_3N^+ \equiv C^-$

(D)  $CH_3COCH_3$

(137) Determine the osmotic pressure of a solution by dissolving 25 mg of  $K_2SO_4$  in 2 litre of water at  $25^\circ C$ , assuming that it is completely dissociated.

(A) 0.0527 atm

(B) 0.00007 atm

(C) 0.00527 atm

(D) 0.0105 atm

(138) Vapour pressure of a solvent containing non-volatile solute is \_\_\_\_\_.

(A) More than Vapour pressure of a solvent

(B) Less than Vapour pressure of solvent

(C) Equal to Vapour pressure of solvent

(D) Equal to Vapour pressure of solution

- (139) Aqua regia is a mixture of Conc. HCl and Conc. HNO<sub>3</sub> in the ratio:  
 (A) 3:1 (B) 1:3 (C) 1:2 (D) 2:1
- (140) Why did Benedict modify the original Fehling's test?  
 (A) To make the test more sensitive to ketones  
 (B) To create a more, stable, single solution reagent that is more convenient  
 (C) To allow the detection of aromatic aldehydes  
 (D) To eliminate the need for alkaline conditions.
- (141) The osmotic pressure of a sugar solution is 2.46 atm at 300K. The concentration of the solution in mol per litre is \_\_\_\_\_.  
 (A) 1 M (B) 0.01 M  
 (C) 0.1 M (D) 0.0125 M
- (142) Reciprocal of siemen is:  
 (A) ampere (B) coulomb  
 (C) ohm (D) volt
- (143) Select the correct Nernst equation from the following to determine the potential of an electrochemical cell based on the reaction  $2A + B^{2+} \rightarrow 2A^+ + B$   
 (A)  $E_{Cell} = E_{cell}^0 + \frac{RT}{F} \ln \frac{[A^+]}{[B^{2+}]}$  (B)  $E_{Cell} = E_{cell}^0 - \frac{RT}{F} \ln \frac{[A^+]}{[B^{2+}]}$   
 (C)  $E_{Cell} = E_{cell}^0 + \frac{RT}{2F} \ln \frac{[A^+]^2}{[B^{2+}]}$  (D)  $E_{Cell} = E_{cell}^0 - \frac{RT}{2F} \ln \frac{[A^+]^2}{[B^{2+}]}$
- (144) For a reaction  $2A \rightarrow \text{Product}$ , the concentration of A decreases from 0.5 mol/L to 0.4 mol/L in 10 min what is the average rate of the reaction during this time interval?  
 (A)  $1 \times 10^{-2} \text{ mol L}^{-1} \text{ min}^{-1}$  (B)  $5 \times 10^{-3} \text{ mol L}^{-1} \text{ min}^{-1}$   
 (C)  $2.5 \times 10^{-3} \text{ mol L}^{-1} \text{ min}^{-1}$  (D)  $0.01 \text{ mol L}^{-1} \text{ min}^{-1}$
- (145) What is correct regarding KMnO<sub>4</sub>?  
 (A) It is weak oxidising agent (B) It is coloured and paramagnetic  
 (C) It is coloured and diamagnetic (D) It is colourless and diamagnetic

46) IUPAC name of  $K_4[(Fe(CN)_6)]$

(A) Potassium hexacyano ferrate (II)

(B) Tetra potassium Iron (II) hexacyano

(C) Potassium iron (II) hexacyano

(D) Potassium hexacyano iron (II)

47) Which complex is used to stop the growth of tumor in body?

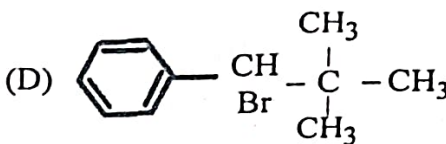
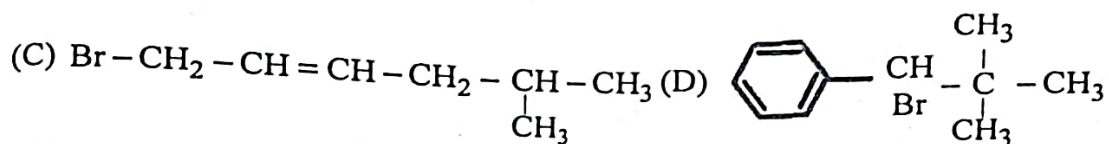
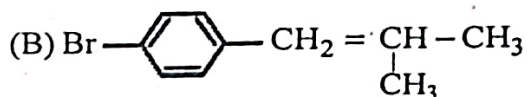
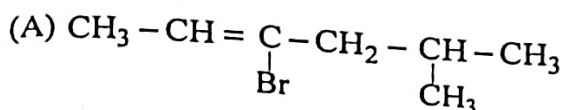
(A) Cisplatin

(B) Chlorophyll

(C) Ferrocene

(D) Hemoglobin

48) Which of the following is allylic halide?



49) In Sandmeyer's Reaction, which reagent is used to convert primary aromatic amine into diazonium salt:

(A)  $Cu_2X_2$

(B) Fe / dark

(C) KI

(D)  $NaNO_2 | HX$

50) Which of the following represents the correct order of decreasing acidic strength?

(A)  $3^\circ \text{ alcohol} > 2^\circ \text{ alcohol} > 1^\circ \text{ alcohol} > \text{Phenol}$

(B)  $\text{Phenol} > 1^\circ \text{ alcohol} > 2^\circ \text{ alcohol} > 3^\circ \text{ alcohol}$

(C)  $1^\circ \text{ alcohol} > 2^\circ \text{ alcohol} > 3^\circ \text{ alcohol} > \text{Phenol}$

(D)  $\text{Phenol} > 3^\circ \text{ alcohol} > 2^\circ \text{ alcohol} > 1^\circ \text{ alcohol}$

1) Identify the product 'X' in the following reaction:  $(CH_3)_3C - OH \xrightarrow{Cu, 573^\circ K} X + H_2O$

(A)  $(CH_3)_2 - C = CH_2$

(B)  $(CH_3)_3 - C = COOH$

(C)  $(CH_3)_3 C - CHO$

(D)  $CH_3 - CH_2 - CH = CH_2$

2) Which compound is commonly used as a food preservative to prevent the growth of mold and bacteria?

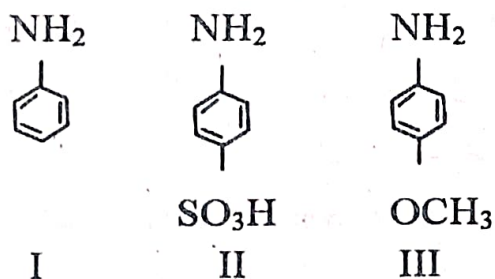
(A) methanoic acid

(B) ethanoic acid

(C) ethyl benzoate

(D) sodium benzoate

- (153) Which of the following reagent sets is used for Wolff-Kishner reduction?  
 (A)  $\text{NH}_2\text{NH}_2$  followed by  $\text{KOH}$ /Ethyleneglycol  
 (B)  $\text{Zn} - \text{Hg}$  in  $\text{HCl}$   
 (C)  $\text{LiAlH}_4$  in dry ether  
 (D)  $\text{Pd}/\text{BaSO}_4$  and  $\text{H}_2$
- (154) Which of the following statements is correct?  
 (A) Methyl amine form salt with alkali  
 (B) Methyl amine is strong base than ammonia  
 (C) Methyl amine is secondary amine  
 (D) Methyl amine is secondary amine
- (155)  $\text{ArN}_2^+\text{Cl}^- + \text{H}_3\text{PO}_2 + \text{H}_2\text{O} \rightarrow \text{X}$  where  $\text{X} =$  \_\_\_\_\_  
 (A) Phenol  
 (B) Benzoic acid  
 (C) Benzene  
 (D) Nitro benzene
- (156) Which vitamin is unique because it can be stored in the human body despite being water-soluble?  
 (A) Vitamin  $\text{B}_1$   
 (B) Vitamin  $\text{B}_{12}$   
 (C) Vitamin  $\text{B}_6$   
 (D) Vitamin C
- (157) What is the chemical name of Vitamin -  $\text{B}_6$ ?  
 (A) Riboflavin  
 (B) Thiamine  
 (C) Pyridoxine  
 (D) Cyanocobalamin
- (158) What is the main product of the reaction of glucose with bromine water?  
 (A) Acetic acid  
 (B) Saccharic acid  
 (C) Glyceroldehyde  
 (D) Gluconic acid
- (159) The correct increasing order of basic strength for the following compounds is \_\_\_\_\_.



- (A)  $\text{II} < \text{III} < \text{I}$   
 (B)  $\text{III} < \text{I} < \text{II}$   
 (C)  $\text{III} < \text{II} < \text{I}$   
 (D)  $\text{II} < \text{I} < \text{III}$

- (160) When 9.3 gm of aniline reacts with excess of bromine water, what is the maximum theoretical mass of 2, 4, 6-tribromo-aniline that can be produced?  
[ Mass of Br = 79.904 g/mol ]
- (A) 9.3 g                      (B) 16.5 g                      (C) 33.0 g                      (D) 49.5 g
- (161) When methyl acetylene is treated with dilute  $H_2SO_4$  in presence of  $HgSO_4$ , the product is \_\_\_\_\_?
- (A) Propanal                      (B) Acetone                      (C) Propanol                      (D) Ethyl methyl ether
- (162) What is the major product formed when vapours of 2-methyl-propan-2-ol ( $3^\circ$  alcohol), are passed over hot copper (Cu) at 573K?
- (A) An aldehyde                      (B) A ketone                      (C) An alkene                      (D) A carboxylic acid
- (163) Which of the following reactants will yield a tertiary alcohol when treated with  $RMgX$  and then hydrolysed?
- (A)  $HCHO$     (B)  $RCHO$   
(C)  $RCOR$     (D)  $RCOOH$
- (164) What is the approximate percentage yield of major product, when 2-bromopentane undergoes a B - elimination reaction?
- (A) 19%                      (B) 50%                      (C) 81%                      (D) 100%
- (165) Who discovered the effectiveness of DDT as an insecticide?
- (A) Paul Muller    (B) US Government  
(C) Gregor Mendel    (D) German Pharmaceuticals
- (166) Calculate the magnetic moment of a divalent ion in aqueous solution if its atomic number is 25.
- (A) 4.80 BM    (B) 5.92 BM  
(C) 2.84 BM    (D) 3.87 BM
- (167) In the chemical reaction,  $A \rightarrow B$ , what is the order of reaction if the rate of reaction doubles on increasing the concentration of 'A' by four times.
- (A) 2                      (B) 15                      (C) 0.5                      (D) 1
- (168) For the following cell  $Zn/Zn^{2+} // Cd^{2+}/Cd$   $E_{all} = 0.30v$ ,  $E_{cell}^0 = 0.36v$ , then the value of  $\frac{[Cd^{2+}]}{[Zn^{2+}]}$  is \_\_\_\_\_?
- (A) 10                      (B) 0.01                      (C) 0.1                      (D) 100

(169) A hypothetical reaction,  $2A + B \rightarrow C + D$  has rate constant as  $4.365 \times 10^{-3} \text{ mol L}^{-1} \text{ S}^{-1}$ . The order of the reaction is?

(A) 3

(B) 0

(C) 2

(D) Unpredictable

(170) Which of the following aldehyde molecules do not undergo Cannizzaro reaction?

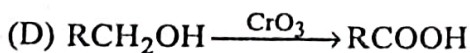
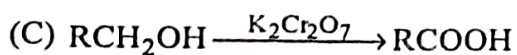
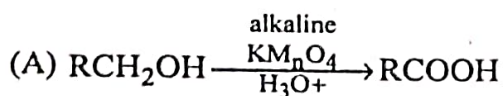
(A)  $\text{CH}_3\text{CHO}$

(B)  $\text{CH}_3 - \text{C}(\text{CH}_3)_2 - \text{CHO}$

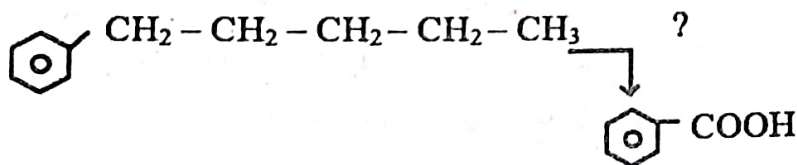
(C)  $\text{C}_6\text{H}_5 - \text{CHO}$

(D)  $\text{HCHO}$

(171) Which of the following is not the appropriate method of conversion of alcohol into carboxylic acid?



(172) The suitable reagent for the following reaction:



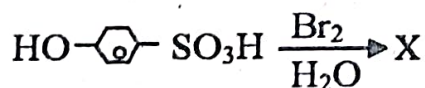
(A)  $\text{CrO}_3 - \text{H}_2\text{SO}_4$

(B)  $\text{KMnO}_4 / \text{H}_2\text{SO}_4 - \text{Heat}$

(C)  $\text{KMnO}_4 - \text{KOH}$

(D) Ammonical  $\text{AgNO}_3$

(173) What is the product (X) of the following reaction:



(A) 2-bromo-4-hydroxybenzene sulphonic acid

(B) 3,5-dibromo-4-hydroxybenzene sulphonic acid

(C) 2-bromophenol

(D) 2,4,6-tribromophenol

(174) Match the items given in column I with that given in column II

Column I

Column II

(i) Nucleotide

(p) Linkage in Carbohydrates

(ii) Peptide linkage

(q) Linkage in proteins

(iii) Glycoside linkage

(r) A sugar and hetero cyclic base combination

(iv) Nucleoside

(s) The monomeric unit in nucleic acid

(A) i - p, ii - q, iii - r, iv - s

(B) i - s, ii - q, iii - p, iv - r

(C) i - s, ii - p, iii - q, iv - r

(D) i - r, ii - p, iii - q, iv - s

(175) Match the following:

I

II

(i) Testosterone

(P) Increase blood sugar

(ii) Glucagon

(Q) Controls normal functioning of male sex organs

(iii) Thyroxin

(R) Controls Menstruation

(iv) Progesterone

(S) Stimulates Metabolism

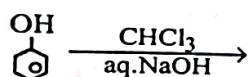
(A) i - Q, ii - S, iii - P, iv - R

(B) i - R, ii - P, iii - S, iv - Q

(C) i - Q, ii - P, iii - S, iv - R

(D) i - R, ii - S, iii - P, iv - Q

(176) The appropriate product of the following transformation:



(A) Salicylaldehyde

(B) Salicylic acid

(C) Benzaldehyde

(D) Phthalaldehyde

(177) The increasing order of the rate of HCN addition to following compounds:

A - HCHO

B - CH<sub>3</sub>COCH<sub>3</sub>

C - Ph COCH<sub>3</sub>

D - Ph COPh

(A) A < B < C < D

(B) D < B < C < A

(C) D < C < B < A

(D) D < A < C < B

(178) Highest boiling point among the following molecules of comparable molecular masses.

(A) Ketones

(B) Alcohols

(C) Aldehydes

(D) Carboxylic acids

- (179) Alcohols can be obtained from all the given methods except:
- (A) Hydroboration – Oxidation
  - (B) Reaction of  $> C=O$  with Grignard Reagent
  - (C) Reaction of aldehyde / ketones with  $Zn - Hg | HC |$
  - (D) By fermentation of Sugar
- (180) Increasing order of acid strength of
- P – methoxy phenol,
  - P – nitro phenol,
  - P – methyl phenol is as :
- (A) P-nitrophenol, P-methoxy phenol, P-methyl phenol
  - (B) P-methylphenol, P-methoxy phenol, P-nitrophenol
  - (C) P-nitrophenol, P-methylephenol, P-methoxyphenol
  - (D) P-methoxyphenol, P-methyl phenol, P-nitrophenol
- (181) A teacher introduces role of oxygen in burning by keeping a burning candle in a deflagrating spoon and asks the class, "If I introduce this into a jar of oxygen," what do you think would happen? The teacher is using \_\_\_\_\_.
- (A) Traditional way of teaching
  - (B) Technology based teaching
  - (C) Constructivist way of teaching
  - (D) Game based learning
- (182) Which of the following is not a factor of constructivist pedagogy.
- (A) Learning should involve social negotiation and mediation
  - (B) Teacher should serve primarily as instructor
  - (C) Teacher should provide for and encourage multiple perspectives
  - (D) Content and skills should be made relevant to the learner
- (183) Which of the following is not an example of an ideal question paper?
- (A) Appropriate weightage
  - (B) Overly challenging
  - (C) Based on blue print
  - (D) Comprehensible language
- (184) Science teaching method that directs towards inclusive education.
- (A) Laboratory method
  - (B) Lecture method
  - (C) Use of Audio-Visual equipments
  - (D) Question & Answer

- (185) Which of the following may be least learner centered?  
 (A) Instructional Plan (B) Unit Plan (C) Lesson Plan (D) Activity Plan
- (186) A teacher wants to teach a Daniell cell and its assembly. Which method can be useful for it?  
 (A) Lecture (B) Discussion (C) Seminar (D) Simulation
- (187) Which method is appropriate in teaching "factors affecting rates of reaction"?  
 (A) Peer-learning (B) Enquiry based learning  
 (C) Assignment (D) Discussion
- (188) Select the option which is not showing the correct relation between learning objective and topic to be taught.
- |  |  |
|--|--|
| Column I : Learning Objective                    | Column II : Topic to be taught                   |
| Column I : Learning Objective                    | Column II : Topic to be taught                   |
| (A) Relates processes with cause / effect        | The structure and the magnetic properties        |
| (B) Takes appropriate precautionary measures     | Handling apparatus and chemicals during lab work |
| (C) Derives relation and expression for equation | Essential and non-essential amino acids          |
| (D) Analyse and interpret data                   | Trends in ionic radii of elements                |
- (189) A chemistry teacher wants to explain "pH and indicators" to students. Which teaching strategy will be most appropriate?  
 (A) pH chart with pH values and different colours  
 (B) A power point presentation on pH  
 (C) Project on pH of household substances using natural indicators  
 (D) A lecture on pH and indicators
- (190) Students are given an unknown salt and asked to determine its composition using chemical tests. Which method is applied?  
 (A) Lecture method (B) Discovery method (C) Dictation method (D) Story method
- (191) A teacher asks students to explain why diamond and graphite have different properties despite being carbon. Which method encourages such thinking?  
 (A) Lecture method (B) Dictation method  
 (C) Problem solving method (D) Story method

- (192) The inductive method in chemistry teaching moves from:
- (A) General to Specific (B) Specific to General  
(C) Theory to Practice (D) Practice to Theory
- (193) Meta cognition refers to \_\_\_\_.
- (A) Avoiding thinking  
(B) Remembering individual difference  
(C) Reducing Psycho – motor skill based activities  
(D) Thinking about one's own thinking
- (194) Adding a reward to encourage desired behaviour is an example of \_\_\_\_.
- (A) Positive Reinforcement (B) Positive Elimination  
(C) Negative Inclusion (D) Positive Exclusion
- (195) When students solve real-life problems collaboratively it is called \_\_\_\_ learning.
- (A) Passive (B) Active (C) Distant (D) Irrelevant
- (196) During group activities a teacher notices that shy students hesitate to participate. Then teacher should
- (A) Appoint them as supervisors during group activities  
(B) Assign paper works to those students  
(C) Keep those students in one group  
(D) Use Peer Scaffolding and small-group interaction
- (197) \_\_\_\_ is not a tangible reward.
- (A) A certificate of achievement (B) Smile  
(C) Stars in the notebook (D) Trophy
- (198) Kinesthetic learners are best helped by \_\_\_\_.
- (A) Watching videos (B) Listening to lectures  
(C) Hands – on - activities and experiments (D) Memorizing textbooks
- (199) Self – Actualization is placed at the highest level in the hierarchy of needs by \_\_\_\_.
- (A) Spearman (B) Piaget (C) Maslow (D) A. G. Gardner
- (200) According to Erik Erikson, the main challenge in adolescence is \_\_\_\_.
- (A) Trust vs Mistrust (C) Inferiority vs Superiority  
(B) Identity vs Role Confusion (D) Authority vs Liberty

