

DO NOT OPEN THE SEAL UNTIL INSTRUCTED TO DO SO.

NTSE (E)

NTSE – NOV, 2018

Medium : English

SCHOLASTIC APTITUDE TEST

Q. Booklet No. 253802

Candidate's Roll Number

Paper – II

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Time allowed : 120 Minutes

Total Questions : 100

Maximum Marks : 100

INSTRUCTION : Please check that OMR Answer Sheet No. and Question Booklet No. match with each other. If they do not match immediately replace the Question Booklet and OMR Answer Sheet. Candidate should fill the correct Question Booklet No. in OMR Answer Sheet.

Instructions to Candidates

Read the following instructions carefully before you answer the questions. Answers are to be SHADED on a SEPARATE OMR Answer sheet given, with a HB pencil. Read the Instructions printed on the OMR sheet carefully before answering the questions.

1. Please write your Hall Ticket No. very clearly (only one digit in one block) on the OMR Answer sheet as given in your admission card. Please see that no block is left unfilled and even Zeros are correctly transferred to the appropriate blocks on the OMR Answer sheet. For all the subsequent purposes, your Centre Code No. and other details shall remain the same as given on the Admission Card.
2. Paper-II (Scholastic Aptitude Test) consists of 100 questions (Q. Nos. 1 to 100).
3. All questions carry one mark each.
4. Since all questions are compulsory, do not try to read through the whole question paper before beginning to answer it.
5. Begin with the first question and keep trying one question after another till you finish all the questions.
6. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. If time permits, you can come back to the questions which you have left in the first instance and try them again.
7. Since the time allotted to the question paper is very limited, you should make the best use of it by not spending too much time on any question.
8. Blank pages are provided for rough work at the end of question paper.
9. REMEMBER YOU HAVE TO SHADE ANSWERS ON A SEPARATE OMR ANSWER SHEET PROVIDED.
10. Answer to each question is to be indicated by SHADING the circle having the number of the correct alternative in the OMR Answer sheet from among the ones given for the corresponding question in the booklet.
 1. Now turn to the next page and start answering the questions.
 2. The OMR Answer sheet consists of two copies, the ORIGINAL COPY and the CANDIDATE'S COPY. Do not separate or displace them. Do not darken the bubbles in two copies of OMR Answer sheets separately. After the examination, you should hand over the original copy of OMR Answer sheet to the invigilator of the room and can take away the Candidate's copy of OMR Answer Sheet with them.
 3. The candidate need not return this Question Paper booklet and can take it after completion of the examination. No candidate should leave the examination hall before the end of the examination.

PAPER – II
SCHOLASTIC APTITUDE TEST
(Q. Nos. 1 to 100)
Max. Marks : 100

Note :

(i) Subjects, Total Questions of each subject and Marks allotted :-

(1) Physics	13 Questions	13 Marks
(2) Chemistry	13 Questions	13 Marks
(3) Biology	14 Questions	14 Marks
(4) Mathematics	20 Questions	20 Marks
(5) History	12 Questions	12 Marks
(6) Geography	12 Questions	12 Marks
(7) Political Science	08 Questions	08 Marks
(8) Economics	08 Questions	08 Marks

(ii) **SHADE** the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Booklet. For shading the circles, use a **HB pencil**.

POLITICAL SCIENCE

1. "... as long as there are tears and suffering, so long our work will not be over" – who spoke these words in his/her speech to the Constituent Assembly ?
 (1) Mahatma Gandhi (2) Dr. B.R. Ambedkar
 (3) Jawaharlal Nehru (4) Sarojini Naidu
2. Which of the following States has its own Constitution ?
 (1) Jammu and Kashmir
 (2) Nagaland
 (3) Gujarat (4) None of these
3. Which among the following statements is/are correct with reference to Election Commission (EC) of India ?
 A.The Government Officers work under the control of the EC and not the government when they are on election duty.
 B.EC implements the code of conduct and punishes any candidate or party that violates it.
 C.The Chief Election Commissioner is not answerable to the President or the Government.
 D.The Chief Election Commissioner is appointed by the President of India.
 (1) B only (2) B, C and D
 (3) A, B, C and D (4) C only
4. At present, 'right to property' is a
 (1) Constitutional Right
 (2) Human Right
 (3) Fundamental Right (4) Natural Right
5. In India, the Prime Minister is
 (1) The head of the Government
 (2) The head of the State
 (3) None of these
 (4) The head of the State as well as Government
6. A party was recognised as a state party after general elections to the Legislative Assembly of a State. It secured six percent of the total votes. In addition to this, it must have won atleast :
 (1) three seats (2) two seats
 (3) four seats (4) one seat
7. Four statements are given below to support the argument "Democracy is the best form of government". Which one of them is not correct?
 (1) Democracy enhances the dignity of citizens.
 (2) Democracy offers better chances of a good decision.
 (3) Mistakes can never be made in democracy.
 (4) Democracy promotes equality among citizens.
8. When all the democracies and dictatorships for the 50 years between 1950 and 2000 are considered :
 (1) Democracies have very higher rate of economic growth
 (2) Democracies have slightly higher rate of economic growth.
 (3) Dictatorships have slightly higher rate of economic growth.
 (4) Both the dictatorships as well as the democracies have equal rate of economic growth

GEOGRAPHY

9. Consider the following statements :
A. 52 percent of the people employed in I.T. and Electronics Industry are women.
B. Bengaluru has emerged as the electronic capital of India.
Which of the above statements is/are NOT correct ?
(1) Both A and B (2) None of these
(3) A only (4) B only
10. The Godavari is known as the 'Dakshin Ganga' because :
(1) of its making of waterfalls
(2) of its drainage into Bay of Bengal
(3) of its length and the area it covers
(4) of its origin in Western Ghats
11. Consider the following statements :
A. Igneous rocks are responsible for the formation of black soil.
B. Terai is a narrow belt of pebbles.
C. The newer alluvial deposits of the northern plain are called khadar.
Which of the above statements are correct ?
(1) A and B (2) A and C
(3) B and C (4) A, B and C
12. Consider the following countries :
A. USA
B. Egypt
C. Brazil
D. Mongolia
E. Canada
F. Uzbekistan
Which of the above countries are smaller than India with respect to area ?
(1) A, B and F only (2) C and D only
(3) B, D and F only (4) C and F only
13. Which of the following has recorded the highest sex-ratio according to Census 2011 ?
(1) Kerala (2) Delhi
(3) Pondicherry (4) Haryana
14. Black soils are generally poor in :
(1) Calcium carbonate
(2) Phosphoric contents
(3) Magnesium (4) Potash and lime
15. Which type of forests are not found in Andhra Pradesh ?
(1) Evergreen forests (2) Mangrove forests
(3) Deciduous forests (4) Thorn forests
16. What were described as the "temples of modern India" by the 1st Prime Minister of India ?
(1) Dams (2) Hospitals
(3) Schools (4) Railway stations
17. Out of the following states, which one receives the South - West monsoon lately ?
(1) Gujarat (2) Karnataka
(3) Maharashtra (4) Kerala
18. Per capita consumption of which energy source is considered as an index of development ?
(1) Electricity (2) Natural gas
(3) Petroleum (4) Solar energy
19. Consider the following statements :
A. India is believed to be the original home of this plant.
B. It grows well in black soil.
C. China is the largest producer of it.
Which of the following crops is mentioned in all the statements given above ?
(1) Sugarcane (2) Rubber
(3) Cotton (4) Jute
20. The biggest port of India is :
(1) Mumbai port (2) Kandla port
(3) Kolkata port (4) Paradwip port

ECONOMICS

21. International Co-operative day is celebrated every year on the
(1) First Saturday of July
(2) First Saturday of August
(3) Second Saturday of July
(4) Second Saturday of August
22. Which of the following factors is not at all related to Green Revolution ?
(1) Use of HYV seeds
(2) Use of chemical fertilisers
(3) Loss of soil fertility
(4) All of these are related.
23. US farmers can sell the farm products at abnormally low prices because :
(1) They are very rich and they don't want any profits.
(2) They use machines for all works of cultivation.
(3) They receive massive sums of money from the US Government.
(4) Production cost is very low in US
24. Consider the following statements and select the correct answer using the code given below.
A. According to social scientists, social exclusion is a cause of poverty.
B. According to social scientists, social exclusion is a consequence of poverty.
(1) Only 'A' is correct. (2) Only 'B' is correct.
(3) Both 'A' and 'B' are correct.
(4) Both 'A' and 'B' are not correct.
25. The marginal productivity of the disguised unemployed is
(1) unmeasured (2) very low
(3) zero (4) very high
26. If organised sector is denoted by the code 'A' and unorganised sector by the code 'B', then which of the following statements is correct in the context of contemporary India ?
(1) Most of the people want to work in 'A' but they have to be in 'B'.
(2) Most of the people want to work in 'B' and they are in 'B'.
(3) Most of the people want to work in 'A' and they are in 'A'.
(4) Most of the people want to work in 'B' but they have to be in 'A'.
27. "We have not inherited the world from our forefathers - we have borrowed it from our children" - This quote expects us :
(1) To use non-renewable resources extensively.
(2) To prefer sustainability of development.
(3) To extract more ground water.
(4) To prefer rapid industrialisation.
28. When the period of last 4 decades is considered, which of the following statements is/are true regarding the primary sector of Indian economy ?
A. The primary sector has lost its credit as the largest employer.
B. The primary sector continues to be the largest employer.
C. The share of primary sector in GDP has fallen drastically.
D. The share of primary sector in GDP has increased slightly.
(1) B & D (2) A & D
(3) A & C (4) B & C

MATHEMATICS

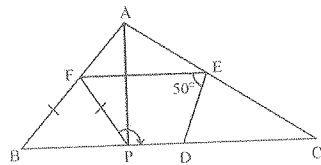
29. If the sum of the roots of the equation $(x^2 - x) = \lambda(2x - 1)$ is zero, then the value

- of λ is
 (1) $\frac{1}{2}$ (2) 2
 (3) $-\frac{1}{2}$ (4) -2

30. If the roots of the equation $(b - c)x^2 + (c - a)x + (a - b) = 0$ are equal, then $\frac{a + c}{b} =$

- (1) 2 (2) 3
 (3) 1 (4) 4

31. In $\triangle ABC$, D, E and F are respectively mid points of the sides BC, CA and AB and P is a point on BC such that $AP \perp BC$. If $\angle DEF = 50^\circ$, then $\angle FPD =$



- (1) 135° (2) 110°
 (3) 120° (4) 130°

32. One of the factor for $x^3 - 23x^2 + 142x - 120$ is

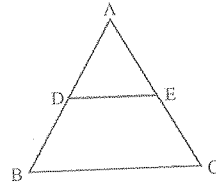
- (1) $x - 1$ (2) $x + 12$
 (3) $x - 4$ (4) $x + 10$

33. Four numbers in A.P. whose sum is 20 and the sum of whose squares is 120, then the numbers are

- (1) 2, 4, 6, 8 (2) 8, 10, 12, 14
 (3) 6, 8, 10, 12 (4) 4, 6, 8, 10

34. The radius of cone and cylinder are in the ratio 2 : 3 and their heights are in the ratio 3 : 2, then their volumes are in the ratio
 (1) 2 : 3 (2) 9 : 2
 (3) 3 : 2 (4) 2 : 9

35. From the adjacent figure $\triangle ABC$, $DE \parallel BC$ and $\frac{AD}{DB} = \frac{3}{5}$, if $AC = 5.6$ then AE is



- (1) 2.1 cm (2) 9 cm
 (3) 15 cm (4) 6 cm

36. If the equation $(k + 3)x^2 - (5 - k)x + 1 = 0$ has distinct roots, the value of k will be
 (1) $k > 12$ or $k < 1$ (2) $k < 13$ or $k > 1$
 (3) $k = 1$ or $k = 13$ (4) $k > 13$ or $k < 1$

37. $3(\sin x - \cos x)^4 + 6(\sin x + \cos x)^2 + 4(\sin^6 x + \cos^6 x) =$
 (1) 14 (2) 13
 (3) 7 (4) 9

38. If $(a, 0)$, $(0, b)$ and $(1, 1)$ are collinear, then $\frac{1}{a} + \frac{1}{b} =$
 (1) 3 (2) 1
 (3) 4 (4) 2

39. If $\frac{x+1}{2} + \frac{y-1}{3} = 8$ and $\frac{x-1}{3} + \frac{y+1}{2} = 9$, then $y =$
 (1) 7 (2) 8
 (3) 12 (4) 13

40. If the sum of the squares of the roots of quadratic polynomial $f(x) = x^2 - 8x + k$ is 40, then $k =$
 (1) 12 (2) 6
 (3) 18 (4) 36

41. If $\operatorname{cosec} \theta - \sin \theta = 4$, then $\sin^2 \theta + \operatorname{cosec}^2 \theta =$
 (1) 8 (2) 18
 (3) 4 (4) 16

42. If $a^{x-1} = bc$, $b^{y-1} = ca$, $c^{z-1} = ab$ then $xy + yz + zx =$
 (1) xyz (2) 1
 (3) 0 (4) $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$

43. If a, b, c are in A.P., then $ax + by + c = 0$ will always pass through a fixed point whose co-ordinates are
 (1) $(-1, 2)$ (2) $(1, 2)$
 (3) $(1, -2)$ (4) $(-1, -2)$

44. 14 cards numbered 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 are placed in a box and mixed thoroughly. If a card is drawn from the box, then probability that the number on the card divisible by 3 or 2 is
 (1) $\frac{9}{14}$ (2) $\frac{5}{14}$
 (3) $\frac{12}{14}$ (4) $\frac{4}{14}$

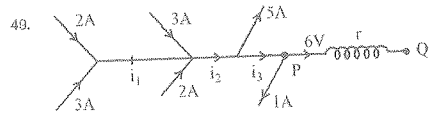
45. The volume of regular cylindrical wire of diameter 2 mm is 99 cubic cm, then the length of wire in metres.
 (1) 31.5 (2) 51.3
 (3) 53.1 (4) 35.1

46. If $a^x = b^{y-z}$ then
 (1) $x \log a = yz \log b$ (2) $\frac{\log a}{\log b} = \frac{x}{y+z}$
 (3) $\frac{\log a}{\log b} = \frac{y+z}{x}$ (4) $\frac{\log b}{\log a} = \frac{y+z}{x}$

47. If the number of observations n is even, then median is
 (1) average of n and $(n + 1)^{\text{th}}$ observations
 (2) average of $\frac{n}{2}$ and $(\frac{n+1}{2})^{\text{th}}$ observations
 (3) average of $\frac{n}{2}$ and $(\frac{n-1}{2})^{\text{th}}$ observations
 (4) average of $\frac{n}{2}$ and $(\frac{n+1}{2})^{\text{th}}$ observations

48. If $x < 1$, $y < -1$, then $(x - 1, y - 3)$ lies in
 (1) Q_1 (2) Q_3
 (3) Q_2 (4) Q_4

PHYSICS



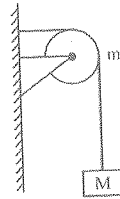
Then $r =$
 (1) 1Ω (2) 1.5Ω
 (3) 2.5Ω (4) 3Ω

50. Three unequal resistors in parallel are equivalent to a resistance 1 ohm. If two of them are in the ratio of 1:2 and if no resistance value is fractional, (let them be natural numbers) the smallest of the three resistance (in ohms) is
 (1) 2 (2) 6
 (3) 4 (4) 3

51. A small block slides without friction down on inclined plane starting from rest. Let S_n be the distance travelled from time $t = (n - 1)$ to time $t = n$. Then $\frac{S_n}{S_{n+1}} =$

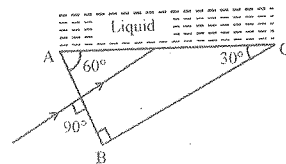
- (1) $\frac{2n+1}{2n-1}$ (2) $\frac{2n-1}{2n}$
 (3) $\frac{2n-1}{2n+1}$ (4) $\frac{(2n+1)^2}{2n+3}$

52. A string of negligible mass going over a clamped pulley of mass m supports a block of mass M as shown in the figure. The force on the pulley by the clamp is
 ($g =$ acceleration due to gravity)



- (1) $\sqrt{(M-m)^2 + m^2}g$ (2) $\sqrt{(M-m)^2 - m^2}/g$
 (3) $\sqrt{(M+m)^2 + m^2}g$ (4) $\sqrt{(M+m)^2 + M^2}g$

53. A ray of light is incident normally on face AB of a prism as shown in the figure. A liquid of refractive index μ is placed on the face AC of the prism. The prism is made of glass of refractive index $3/2$. The limit of μ for which total internal reflection takes place on face AC is

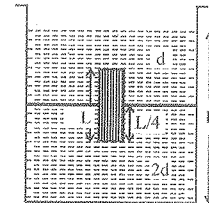


- (1) $\mu < \sqrt{3}$ (2) $\mu < \frac{3\sqrt{3}}{4}$
 (3) $\mu < \frac{3\sqrt{3}}{14}$ (4) $\mu > \frac{\sqrt{3}}{2}$

54. Two trains with V_1, V_2 speeds take 3 seconds to pass one another when going in opposite direction, but takes only 2.5 seconds if the speed of any one of it is increased by (its speed) 50%. The time would take to pass the other when going in the same direction with V_1, V_2

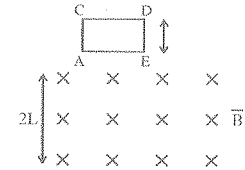
- speeds in _____ sec.
 (1) 10 (2) 12
 (3) 18 (4) 15

55. In a container (Cross-sectional Area A) a homogeneous solid cylinder of length L ($L < H/2$ as shown in the figure), cross-sectional area $A/5$ is immersed such that it floats with its axis vertical at the liquid-liquid surface with length $L/4$ in the denser liquid as shown in the figure. The lower density liquid is open to the atmosphere. Then the density D of solid is given by



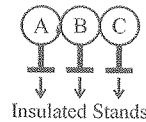
- (1) $\frac{d}{5}$ (2) $\frac{4}{5}d$
 (3) $4d$ (4) $\frac{5}{4}d$

56. A square coil ACDE with its plane vertical is released from rest in horizontal uniform magnetic field \vec{B} of length $2L$. The acceleration of the coil when coming out of the field is (Acceleration due to gravity g)



- (1) Less than g (2) Equal to g
 (3) Twice to g (4) More than g

57. Three identical (in all aspects) metal spheres A, B and C are supported on separate insulated stands and placed in contact as shown in the figure. A charged glass rod rubbed by a silk cloth is kept near the metal sphere A, then charges on A, B and C respectively are



- (1) Negative charge, Neutral, Positive charge
 (2) Positive charge, Neutral, Neutral
 (3) Negative charge, Positive charge, Neutral
 (4) Positive charge, Neutral, Negative charge

58. On a planet whose size (including radii) is the same and mass is 4 times as that of our earth. Then the amount of work done to lift 3 kg mass vertically upwards through 3 m distance on that planet is
 (g on the surface of earth is 10 m/s^2)

- (1) 360 kg (2) 40 J
 (3) 40 kg (4) 360 J

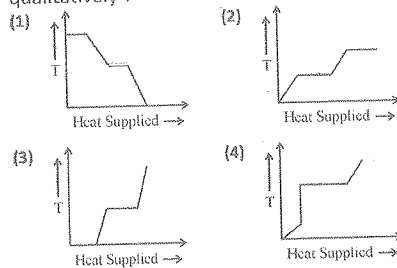
59. Let the smallest audible sound (nearer to total silence) is 0 dB. A sound 1000 times more powerful than the sound nearer to total silence is

- (1) 1000 dB (2) 30 dB
(3) 10 dB (4) 3 dB

60. The refractive index of the material of a double convex lens is 1.5 and its focal length is 5 cm. If the radii of curvature are equal, the value of the radius of curvature is _____ cm.

- (1) 8 (2) 6.5
(3) 5 (4) 5.6

61. A block of ice at -10°C is slowly heated and converted to steam at 100°C . Which of the following curves represents the phenomenon qualitatively ?



HISTORY

62. The national colours of France are :

- (1) Green - Gold
(2) Saffron - White - Green
(3) Red - Blue - Green (4) Blue - White - Red

63. Famous Enabling Act was passed in Germany in 1933. With this, Hitler :

- (1) restored the dignity of Germany
(2) became the dictator of Germany
(3) established socialism in Germany
(4) became the chancellor of Germany

64. Which of the following features was NOT related to Stalin ?

- (1) Rapid industrialization
(2) Collectivization of agriculture
(3) Announcement of 'The New Deal'
(4) Introducing five year plans

65. In 19th century, the main destination(s) of Indian indentured migrants was/were :

- (1) Fiji and Mauritius only
(2) Fiji only
(3) Fiji, Caribbean islands and Mauritius
(4) Fiji and Caribbean islands only

66. Who was the chairman of 'the Democratic Republic of Vietnam' ?

- (1) Ngo Dinh Diem (2) Nguyen
(3) Bao Dai (4) Ho Chi Minh

67. Consider the following statements in connection with the printing press invented by Gutenberg.

- A. The first printed book was the Bible.
B. The new technology entirely displaced the existing art of producing books by hand.
C. At first the printed books closely resembled the written manuscripts in appearance.

Which of the statements given above are correct ?

- (1) A and B (2) B and C
(3) A and C (4) A, B and C

68. The African word 'Maasai' means :

- (1) My pasture (2) My cattle
(3) My land (4) My people

69. Which one of the following statements is correct ?

- (1) William-I was proclaimed King of united Italy in 1861.
(2) William-I was proclaimed German Emperor in 1871.

(3) Victor Emmanuel-II was proclaimed King of united Italy in 1871.

(4) Victor Emmanuel-II was proclaimed German Emperor in 1861.

70. Consider the following statements regarding the forest policies implemented under the British rule :

A. The first Inspector General of Forests in India was a French expert appointed by the British government.

B. Shifting agriculture in Sri Lanka was called 'Chena'.

C. The people of forest communities benefited in many ways after the forest department took control of the forests.

Which of the above statements is/are correct ?

- (1) A, B and C (2) B only
(3) A and B (4) A and C

71. Give the correct chronological order:
 A. Simon Commission
 B. First round table conference
 C. Gandhi - Irwin Pact
 D. Re-launch of Civil Disobedience Movement
 (1) D, C, A, B (2) A, B, C, D
 (3) C, B, A, D (4) A, C, B, D
72. In 1868 England was producing about 80 percent of the food it consumed. This increase in food-grain production was made possible mainly by :
 (1) Radical innovations in agricultural technology
 (2) Bringing new lands under cultivation
 (3) Extensive use of chemical fertilizers
 (4) The use of only bio- fertilizers
73. 'A sanyasi, who had earlier been to Fiji as an indentured labourer, led a peasant movement. He used to recite verses from Tulasidas Ramayana to rural audience' - who was 'He' referred to here ?
 (1) Jhinguri Singh
 (2) Jadunandan Sharma
 (3) Baba Ram Chandra
 (4) Sahajananda Saraswati

BIOLOGY

74. Name the connecting tissue that connects a muscle to the bone.
 (1) Cartilage (2) Areolar tissue
 (3) Ligament (4) Tendon
75. What happens to the inhaled air as it passes through the nasal cavity ?
 (1) All of these
 (2) Warmed to the body temperature
 (3) Filtered in the nasal cavity
 (4) Moistened by mucus
76. Granular structures present on the rough endoplasmic reticulum are
 (1) Plastids (2) Lysosomes
 (3) Ribosomes (4) Lipids
77. Saliva contains an enzyme called
 (1) Pepsin (2) Ptyalin
 (3) Lipase (4) Trypsin
78. Which of the following is the connecting link between the aves and reptiles ?
 (1) Amphioxus (2) Alligator
 (3) Dinosaurs (4) Archaeopteryx
79. The nickname given to the neural apparatus of human digestive tract
 (1) Hind brain (2) Second brain
 (3) Mid brain (4) Fore brain
80. Match the item in Column-I with Column-II :
- | Column-I | Column-II |
|-------------------|--------------------|
| (a) Retinol | (i) Scurvy |
| (b) Thiamine | (ii) Xerophthalmia |
| (c) Ascorbic acid | (iii) Rickets |
| (d) Calciferol | (iv) Beri-beri |
- (1) a - iii, b - i, c - iv, d - ii
 (2) a - iv, b - ii, c - iii, d - i
 (3) a - ii, b - iv, c - i, d - iii
 (4) a - iv, b - iii, c - ii, d - i
81. The process of entry of pollutants into a food chain is known as
 (1) Bio-accumulation (2) Biomass
 (3) Bio-magnification (4) Biosphere
82. Scientific and objective study of animal behaviour is called
 (1) Ecology (2) Zoo geography
 (3) Ethology (4) Zoology
83. Choose the correct statement from the below :
 Each human cell contains
 (1) only 23 pairs of autosomes
 (2) 22 pairs of autosomes and one pair of allosome
 (3) only 23 pairs of allosomes
 (4) one pair of autosome and 22 pairs of allosomes
84. From which part of cinchona plant the alkaloid quinine is obtained ?
 (1) Seeds (2) Leaves
 (3) Bark (4) Roots
85. Deficiency of Vasopressin causes a disease called
 (1) Goiter (2) Asthma
 (3) Diabetes mellitus (4) Diabetes insipidus
86. Area of best vision present in the retina
 (1) Yellow spot (2) Blind spot
 (3) Pupil (4) Sclera
87. Name the structure that helps the sperm in penetrating into ovum.
 (1) Acrosome (2) Middle piece
 (3) Tail (4) Neck

CHEMISTRY

88. Find the false procedure.
- (1) Roasting - Presence of oxygen - Sulphide ore - Oxide ore
 - (2) Froth Floatation - Presence of blown air - Impure sulphide ore - Increase concentration of sulphide ore
 - (3) Smelting - Presence of Flux - Reduction of oxide ore - Metal
 - (4) Calcination - Presence of oxygen - Carbonate ore - Oxide ore
89. Find the incorrect statement.
- (1) Ethanol is a colourless liquid with characteristic of sweet odour and pure ethanol is called absolute alcohol.
 - (2) Denatured alcohol means 100% alcohol in the form of pure ethanol.
 - (3) 10% ethanol in gasoline (gasohol) is a good motor fuel.
 - (4) Orange colour $\text{Cr}_2\text{O}_7^{2-}$ changes bluish green Cr^{3+} during the process of oxidation of ethanol to ethanal and ethanoic acid.
90. The correct set of quantum number is _____.
- (1) $n = 2, l = 1, m = 0, s = 0$
 - (2) $n = 2, l = 1, m = 0, s = +\frac{1}{2}$
 - (3) $n = 2, l = -2, m = 1, s = +\frac{1}{2}$
 - (4) $n = 2, l = 2, m = -1, s = -\frac{1}{2}$
91. Potassium Super Oxide (KO_2) is used in submarines because it
- (1) absorbs CO_2 and decrease O_2 concentration
 - (2) absorbs moisture
 - (3) produces ozone
 - (4) absorbs CO_2 and increase O_2 concentration
92. An element X belongs to 3rd period and 3rd group of the periodic table. Choose the correct statement(s) regarding it.
- a. It is used in thermite process.
 - b. One of its allotropic is tetra atomic X_4 .
 - c. It belongs to p-block.
 - d. Third most abundant element after oxygen and silicon in the earth crust.
- (1) a, b and d
 - (2) b only
 - (3) a and b
 - (4) a, c and d
93. Ionic compounds are formed most easily when the combination is having
- (1) High Electron Affinity, Low Ionisation Energy
 - (2) Low Electron Affinity, Low Ionisation Energy
 - (3) High Electron Affinity, High Ionisation Energy
 - (4) Low Electron Affinity, High Ionisation Energy
94. The decreasing order of priority for choosing and naming a principal characteristic group in nomenclature is
- (1) $-\text{COOH} > -\text{CHO} > -\text{COOR} > \begin{matrix} \diagup \\ \text{C} = \text{O} > -\text{NH}_2 > \text{R}-\text{OH} \\ \diagdown \end{matrix}$
 - (2) $-\text{COOH} > -\text{COOR} > -\text{CHO} > \begin{matrix} \diagup \\ \text{C} = \text{O} > \text{R}-\text{OH} > -\text{NH}_2 \\ \diagdown \end{matrix}$
 - (3) $-\text{COOR} > -\text{CHO} > -\text{COOH} > \begin{matrix} \diagup \\ \text{C} = \text{O} > \text{R}-\text{OH} > -\text{NH}_2 \\ \diagdown \end{matrix}$
 - (4) $-\text{COOR} > -\text{COOH} > -\text{CHO} > \begin{matrix} \diagup \\ \text{C} = \text{O} > \text{R}-\text{OH} > -\text{NH}_2 \\ \diagdown \end{matrix}$
95. $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ is a balanced chemical equation, causing reduction of CuO. What volume of H_2 at STP is required to reduce 7.95 gm of CuO to give Cu and H_2O ? (Atomic weight of Cu = 63.5 U and Atomic weight of O = 16 U)
- (1) 0.224 lit
 - (2) 22.4 lit
 - (3) 224 lit
 - (4) 2.24 lit
96. Which of the following sets of phenomena would increase on raising the temperature ?
- a. Evaporation of liquid
 - b. Sublimation of solid
 - c. Solubility of solute in water
 - d. Solubility of gases in water
- (1) a, b
 - (2) a, b, c
 - (3) a, b, c, d
 - (4) a, c
- Arrange the elements B, Al, Mg, K in the increasing order of metallic character.
- (1) $\text{B} < \text{K} < \text{Mg} < \text{Al}$
 - (2) $\text{B} < \text{Mg} < \text{K} < \text{Al}$
 - (3) $\text{B} < \text{Al} < \text{Mg} < \text{K}$
 - (4) $\text{B} < \text{Mg} < \text{Al} < \text{K}$
97. Which of the following compound with underlined carbon is having sp^3 hybridisation?
- (1) $\text{CH}_3 - \text{CH}_2 - \underline{\text{C}}\text{H} = \text{CH}_2$
 - (2) $\text{CH}_3 - \underline{\text{C}}\text{H}_2 - \text{NH}_2$
 - (3) $\text{CH}_3 - \underline{\text{C}}\text{O} - \text{NH}_2$
 - (4) $\text{CH}_3 - \text{CH}_2 - \underline{\text{C}}\text{N}$
98. Refining of Impure Copper with Zinc Impurity is to be done by electrolysis using anode and cathode respectively as
- (1) Pure Zinc, Pure Copper
 - (2) Pure Copper, Pure Zinc
 - (3) Impure Copper, Pure Copper
 - (4) Impure Zinc, Pure Zinc
99. Which of the following is not an oxidation reaction ?
- (1) Bleaching of coloured sugarcane juice/vegetables using moist sulphur dioxide.
 - (2) Rancidity of fats
 - (3) The poling process involving the removal of impurities from a molten metal
 - (4) The black coating on silver due to formation of silver sulphide