



ODM SCHOLARSHIP ADMISSION TEST 2019

OSAT | SCIENCE

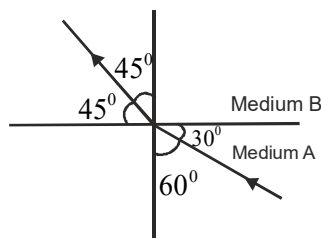
SAMPLE QUESTION PAPER

SECTION – A

01. Neutrons are present in all atoms except
(a) H. (b) C. (c) He. (d) Ne
02. All the statements about electron are true except
(a) it is negativity charged particle
(b) it is a basic constituent of all atoms
(c) it is a constituent of cathode rays
(d) the mass of electron is equal to the mass of proton.
03. Which conclusion was a direct result of the gold foil experiment ?
(a) An atom is mostly empty space with a dense, positively charged nucleus.
(b) An atom is composed of at least three types of subatomic particles.
(c) An electron has a positive charge and is located inside the nucleus.
(d) An electron has properties of both waves and particles
04. How many H atoms are in 3.4 g of $C_{12}H_{22}O_{11}$?
(a) 6.0×10^{23} (b) 1.3×10^{23}
(c) 3.8×10^{22} (d) 6.0×10^{23}
05. Which of the following statements is false ?
(a) Melting and freezing point of a substance are the same.
(b) Evaporation of liquid takes place only at its boiling point
(c) Pure water has no taste
(d) Water allows sunlight to pass through it
06. Which of the following are exothermic processes ?
(i) Reaction of water with quick lime
(ii) Dilution of an acid
(iii) Evaporation of water
(iv) Sublimation of camphore (crystals)
(a) (i) and (ii) (b) (ii) and (iii)
(c) (i) and (iv) (d) (iii) and (iv)
07. Which among the following is (are) double displacement reaction(s) ?
(i) $Pb + CuCl_2 \rightarrow PbCl_2 + Cu$
(ii) $Na_2SO_4 + BaCl_2 \rightarrow BaSO_4 + 2NaCl$
(iii) $C + O_2 \rightarrow CO_2$
(iv) $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$
- (a) (i) and (iv) (b) (ii) only
(c) (i) and (ii) (d) (iii) and (iv)
08. Electrolysis of water is a decomposition reaction. The mole ratio of hydrogen and oxygen gases liberated during electrolysis of water is
(a) 1 : 1 (b) 2 : 1 (c) 4 : 1 (d) 1 : 2
09. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solution would reverse the change ?
(a) Baking powder (b) Lime
(c) Ammonium hydroxide solution
(d) Hydrochloric acid
10. Which of the following salts does not contain water of crystallisation ?
(a) Blue vitriol (b) Baking soda
(c) Washing soda (d) Gypsum
11. A sample of soil is mixed with water and allowed to settle. The clear supernatant solution turns the pH paper yellowish-orange. Which of the following would change the colour of this pH paper to greenish-blue ?
(a) Lemon juice (b) Vinegar
(c) Common salt (d) An antacid
12. Which of the following gives the correct increasing order of acidic strength ?
(a) Water < Acetic acid < Hydrochloric acid
(b) Water < Hydrochloric acid < Acetic acid
(c) Acetic acid < Water < Hydrochloric acid
(d) Hydrochloric acid < Water < Acetic acid
13. To protect tooth decay we are advised to brush our teeth regularly. The nature of the tooth paste commonly used is
(a) acidic (b) neutral
(c) basic (d) corrosive
14. Galvanisation is a method of protecting iron from rusting by coating with a thin layer of
(a) Gallium (b) Aluminium
(c) Zinc (d) Silver
15. Silver articles become black on prolonged exposure to air. This is due to the formation of
(a) Ag_3N (b) Ag_2O
(c) Ag_2S (d) Ag_2S and Ag_3N

16. 2 mL each of concentrated HCl, HNO₃ and a mixture of concentrated HCl and concentrated HNO₃ in the ratio of 3 : 1 were taken in test tubes labelled as A, B and C. A small piece of metal was put in each test tube. No change occurred in test tubes A and B but the metal got dissolved in test tube C respectively. The metal could be
(a) Al (b) Au (c) Cu (d) Pt
17. Alloys are homogeneous mixtures of a metal with a metal or non-metal. Which among the following alloys contain non-metal as one of its constituents ?
(a) Brass (b) Bronze
(c) Amalgam (d) Steel
18. $\text{CH}_3 - \text{CH}_2 - \text{OH} \xrightarrow{\text{Alkaline KMnO}_4 + \text{Heat}} \text{CH}_3 - \text{COOH}$
In the above given reaction, alkaline KMnO₄ acts as
(a) reducing agent (b) oxidising agent
(c) catalyst (d) dehydrating agent
19. In which of the following compounds, -OH is the functional group ?
(a) Butanone (b) Butanol
(c) Butanoic acid (d) Butanol
20. Identify the unsaturated compounds from the following
(i) Propane (ii) Propene
(iii) Propyne (iv) Chloropropane
(a) (i) and (ii) (b) (ii) and (iv)
(c) (iii) and (iv) (d) (ii) and (iii)
21. Vinegar is a solution of
(a) 50% - 60% acetic acid in alcohol
(b) 5% - 8% acetic acid in alcohol
(c) 5% - 8% acetic acid in water
(d) 50% - 60% acetic acid in water
22. Which among the following are unsaturated hydrocarbons ?
(i) $\text{H}_3\text{C} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$
(ii) $\text{H}_3\text{C} - \text{C} \equiv \text{C} - \text{CH}_3$
(iii) $\begin{array}{c} \text{H}_3\text{C} - \text{CH} - \text{CH}_3 \\ | \\ \text{CH}_3 \end{array}$
(iv) $\begin{array}{c} \text{H}_3\text{C} - \text{C} = \text{CH}_2 \\ | \\ \text{CH}_3 \end{array}$
(a) (i) and (iii) (b) (ii) and (iii)
(c) (ii) and (iv) (d) (iii) and (iv)
23. Which of the following represents saponification reaction ?
(a) $\text{CH}_3\text{COONa} + \text{NaOH} \xrightarrow{\text{CaO}} \text{CH}_4 + \text{Na}_2\text{CO}_3$
(b) $\text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \xrightarrow{\text{H}_2\text{SO}_4} \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$
(c) $2\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow 2\text{CH}_3\text{COONa} + \text{H}_2$
(d) $\text{CH}_3\text{COOC}_2\text{H}_5 + \text{NaOH} \rightarrow \text{CH}_3\text{COONa} + \text{C}_2\text{H}_5\text{OH}$
24. In Mendeleev's Periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found a place in the periodic table later
(a) Germanium (b) Chlorine
(c) Oxygen (d) Silicon
25. Which of the given elements A, B, C, D and E with atomic number 2, 3, 7, 10 and 30 respectively belong to the same period ?
(a) A, B, C (b) B, C, D
(c) A, D, E (d) B, D, E
26. An element which is an essential constituent of all organic compounds belongs to
(a) group 1 (b) group 14
(c) group 15 (d) group 16
27. Which of the following is the outermost shell for elements of period 2 ?
(a) K shell (b) L shell
(c) M shell (d) N shell
28. Which of the following gives the correct increasing order of the atomic radii of O, F and N ?
(a) O, F, N (b) N, F, O
(c) O, N, F (d) F, O, N
29. Which among the following elements has the largest atomic radii ?
(a) Na (b) Mg (c) K (d) Ca
30. The element with atomic number 14 is hard and forms acidic oxide and a covalent halide. To which of the following categories does the element belong ?
(a) Metal (b) Metalloid
(c) Non-metal (d) Left-hand side element

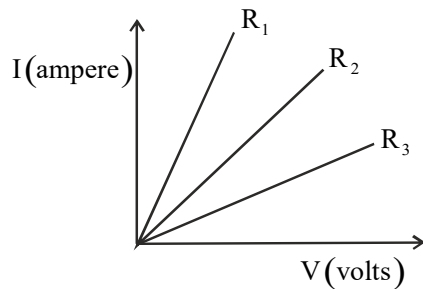
31. Three liquids of densities d , $2d$ and $3d$ are mixed in equal volumes. Then the density of the mixture is
 (a) d (b) $2d$ (c) $3d$ (d) $5d$
32. Which of the following is different from others
 (a) Velocity (b) Wavelength
 (c) Frequency (d) Amplitude
33. The minimum audible wavelength at room temperature is about
 (a) 0.2 \AA (b) 5 \AA
 (c) $5 \text{ cm to } 2 \text{ metre}$ (d) 20 mm
34. A body of mass 10 kg is moving with a constant velocity of 10 m/s . When a constant force acts for 4 seconds on it, it moves with a velocity 2 m/sec in the opposite direction. The acceleration produced in it is
 (a) 3 m/sec^2 (b) -3 m/sec^2
 (c) 0.3 m/sec^2 (d) -0.3 m/sec^2
35. A cold soft drink is kept on the balance. When the cap is open, then the weight
 (a) Increases
 (b) Decreases
 (c) First increases then decreases
 (d) Remains same
36. A 10 mm long awl pin is placed vertically in front of a concave mirror. A 5 mm long image of the awl pin is formed at 30 cm in front of the mirror. The focal length of this mirror is
 (a) -30 cm (b) -20 cm
 (c) -40 cm (d) -60 cm
37. Figure shows a ray of light as it travels from medium A to medium B. Refractive index of the medium B relative to medium A is :



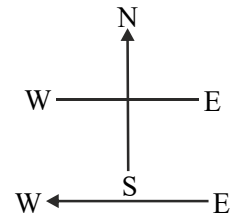
- (a) $\sqrt{3} / \sqrt{2}$ (b) $\sqrt{2} / \sqrt{3}$
 (c) $1 / \sqrt{2}$ (d) $\sqrt{2}$

38. Rays from Sun converge at a point 15 cm in front of a concave mirror. Where should an object be placed so that size of its image is equal to the size of the object ?
 (a) 15 cm in front of the mirror
 (b) 30 cm in front of the mirror
 (c) between 15 cm and 30 cm in front of the mirror
 (d) more than 30 cm in front of the mirror
39. A person cannot see distinctly kept beyond 2 m . This defect can be corrected by using a lens of power
 (a) $+0.5 \text{ D}$ (b) -0.5 D (c) $+0.2 \text{ D}$ (d) -0.2 D
40. Which of the following phenomena of light are involved in the formation of a rainbow ?
 (a) Reflection, refraction and dispersion
 (b) Refraction, dispersion and total internal reflection
 (c) Refraction, dispersion and internal reflection
 (d) Dispersion, scattering and total internal reflection
41. The danger signals installed at the top of tall buildings are red in colour. These can be easily seen from a distance because among all other colours, the red light
 (a) is scattered the most by smoke or fog
 (b) is scattered the least by smoke or fog
 (c) is absorbed the most by smoke or fog
 (d) moves fastest in air
42. The focal length of the eye lens increases when eye muscles
 (a) are relaxed and lens becomes thinner
 (b) contract and lens becomes thicker
 (c) are relaxed and lens becomes thicker
 (d) contract and lens becomes thinner
43. What is the maximum resistance which can be made using five resistors each of $1/5 \Omega$?
 (a) $1/5 \Omega$ (b) 10Ω (c) 5Ω (d) 1Ω
44. Which of the following represents voltage ?
 (a) $\frac{\text{Work done}}{\text{Current} \times \text{Time}}$
 (b) Work done Charge
 (c) $\frac{\text{Work done} \times \text{Time}}{\text{Current}}$
 (d) Work done Charge Time

45. A student carries out an experiment and plots the V-I graph of three samples of nichrome wire with resistances R_1, R_2 and R_3 respectively figure. Which of the following is true ?



- (a) $R_1 = R_2 = R_3$ (b) $R_1 > R_2 > R_3$
 (c) $R_3 > R_2 > R_1$ (d) $R_2 > R_3 > R_1$
46. In an electrical circuit two resistors of 2Ω and 4Ω respectively are connected in series to a 6 V battery. The heat dissipated by the 4Ω resistor in 5 s will be
 (a) 5 J (b) 10 J (c) 20 J (d) 30 J
47. An electric kettle consumes 1 kW of electric power when operated at 220 V. A fuse wire of what rating must be used for it ?
 (a) 1 A (b) 2 A (c) 4 A (d) 5 A
48. For a current in a long straight solenoid N- and S-poles are created at the two ends. Among the following statements, the incorrect statement is :
 (a) The field lines inside the solenoid are in the form of straight lines which indicates that the magnetic field is the same at all points inside the solenoid
 (b) The strong magnetic field produced inside the solenoid can be used to magnetise a piece of magnetic material like soft iron, when placed inside the coil
 (c) The pattern of the magnetic field associated with the solenoid is different from the pattern of the magnetic field around a bar magnet.
 (d) The N- and S-poles exchange position when the direction of current through the solenoid is reversed.
49. A constant current flows in a horizontal wire in the plane of the paper from east to west as shown in figure. The direction of magnetic field at a point will be North to South.



- (a) directly above the wire
 (b) directly below the wire
 (c) at a point located in the plane of the paper, on the north side of the wire
 (d) at a point located in the plane of the paper, on the south side of the wire
50. The strength of magnetic field inside a long current carrying straight solenoid is
 (a) more at the ends than at the centre
 (b) minimum in the middle
 (c) same at all points
 (d) found to increase from one end to the other
51. To convert an AC generator into DC generator
 (a) split-ring type commutator must be used
 (b) Slip rings and brushes must be used
 (c) a stronger magnetic field has to be used
 (d) a rectangular wire loop has to be used
52. Which one of the following forms of energy leads to least environmental pollution in the process of its harnessing and utilisation ?
 (a) Nuclear energy (b) Thermal energy
 (c) Solar energy (d) Geothermal energy
53. Ocean thermal energy is due to
 (a) energy stored by waves in the ocean
 (b) temperature difference at different levels in the ocean
 (c) pressure difference at different levels in the ocean
 (d) tides arising out in the ocean
54. The major problem in harnessing nuclear energy is how to
 (a) split nuclei ?
 (b) sustain the reaction ?
 (c) dispose off spent fuel safely ?
 (d) convert nuclear energy into electrical energy ?

55. In a hydroelectric power plant more electrical power can be generated if water falls from a greater height because
 (a) its temperature increases
 (b) larger amount of potential energy is converted into kinetic energy
 (c) the electricity content of water increases with height
 (d) more water molecules dissociate into ions
56. Excessive exposure of humans to U V -rays results in
 (i) damage to immune system
 (ii) damage to lungs
 (iii) skin cancer
 (iv) peptic ulcers
 (a) (i) and (ii) (b) (ii) and (iv)
 (c) (i) and (iii) (d) (iii) and (iv)
57. The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about
 (a) 1 % (b) 5% (c) 8 % (d) 10%
58. The pH of water sample collected from a river was found to be acidic in the range of 3.5 - 4.5 , on the banks of the river were several factories that were discharging effluents into the river. The effluents of which one of the following factories is the most likely cause for lowering the pH of river water ?
 (a) Soap and detergent factory
 (b) Lead battery manufacturing factory
 (c) Plastic cup manufacturing factory
 (d) Alcohol distillery
59. Choose the incorrect statement
 (a) Fleming's right-hand rules is a simple rule to know the direction of induced current
 (b) The right-hand thumb rule is used to find the direction of magnetic fields due to current carrying conductors
 (c) The difference between the direct and alternating currents is that the direct current always flows in one direction, whereas the alternating current reverses its direction periodically
 (d) In India, the AC changes direction after every $\frac{1}{50}$ second
60. A cylindrical conductor of length l and uniform area of cross section A has resistance R . Another conductor of length $2l$ and resistance R of the same material has area of cross section
 (a) $A/2$ (b) $3A/2$ (c) $2A$ (d) $3A$

Direction : Find the wrong term ?

61. 9, 54, 44, 264, 254, 1520, 1514
 (a) 1514 (b) 1520 (c) 264 (d) 44

Direction (62-63) : Find the missing term ?

62. CK 16 9 JR
 OS 24 19 TX
 KM ? ? PV
 (a) 56, 84 (b) 84, 56
 (c) 21, 14 (d) 14, 21

7	8	9
7	15	24
7	?	46

63. (a) 33 (b) 23 (c) 22 (d) 14
64. If MOON is coded as 19 and RED is coded as 9, how would you code SISA in the same code language ?
 (a) 15 (b) 16 (c) 13 (d) 18

Direction : (65) Read the following information carefully and answer the questions.

- (i) Six flats on a floor in two rows, facing east and west are allotted to Q,R,S,T,U and V.
 (ii) R gets east side facing and not next to T.
 (iii) T and V get diagonally opposite flats
 (iv) S next to V gets a west facing flat
 (v) U gets a east facing flat

65. Which of the following combination gets west facing flats ?
 (a) SQR (b) RTS (c) STU (d) QSV

Directions (66) : In each of the following questions, two statements are given followed by three or four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance from the commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

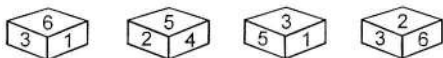
66. Statements : All politicians are honest. All honest are fair.
 Conclusions : I. Some honest are politician.
 II. No honest is politician.
 III. Some fair are politician.
 IV. All fair are politician
 (a) None follows
 (b) Only I follows
 (c) Only I and II follow
 (d) Only I and III follow

Directions : (67) Read the following information and answer the questions that follow.

At a Railway station, P family is saying good-bye to R family. We do not know who is leaving and who is seeing the other family off. Each member of P family says farewell to each member of R family. To say good-bye, two men shake hands and a man and women and two women hug each other. An eyewitness to the event counted 21 handshakes and 34 hugs.

67. How many women were there ?
 (a) 13 (b) 6
 (c) 34 (d) Can be b or c
68. If Sripal's birthday falls on Thursday 20th March, 2000, then on which day of the week his birthday falls in the year 2001 ?
 (a) Wednesday (b) Friday
 (c) Saturday (d) Sunday

69. The number opposite to 3 is

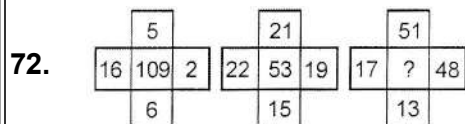


- (a) 2 (b) 3 (c) 4 (d) 6
70. Find the missing term ; 3, 5, 9, 17, 33, ?
 (a) 49 (b) 51 (c) 57 (d) 65

Direction (71) : Find the wrong term ?

71. AIU, EOA, IUE, OAI, UEO
 (a) AIU (b) EOA (c) IUE (d) OAE

Direction (72) : Find the missing term ?



- (a) 7 (b) 25 (c) 129 (d) 625
73. In a certain code, 01234 is coded COUNT, 4765 as TRAY, how is 0123475 coded ?
 (a) COUNTRY (b) TRYCOUN
 (c) RYCOUNT (d) YRCOUNT

74. **In direction for question no.65** Whose flat is between R and T ?
 (a) Q (b) S (c) U (d) V

Direction (75) In each of the following questions, two statements are given followed by three or four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance from the commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

75. Statements : All terrorists are guilty. All terrorists are criminals.
 Conclusions : I. Either all criminals are guilty or all guilty are criminals.
 II. Some guilty persons are criminals.
 III. Generally criminals are guilty.
 IV. Crime and guilt go together.
 (a) Only I follows
 (b) Only I and III follows
 (c) Only II follows
 (d) Only II and IV follow

76. **In direction for questions no. 67** How many men were there ?
 (a) 10 (b) 6
 (c) 22 (d) Can be a or c
77. The day before yesterday I was 25 and the next year I turn 28. On what date did I give that statement ?
 (a) 1 January (b) 28 February
 (c) 29 February (d) 31 December
78. Two different positions of a dice are shown below. Which number will appear on the face opposite the number 4 ?



- (a) 2 (b) 6 (c) 5 (d) 3
79. In a certain code SEVEN is written as LKJYO how will you encode FOUR ?
 (a) ACUS (b) AUCS (c) APCZ (d) PACZ
80. **In direction for question no. 65** If the flats of U and Q are interchanged then whose flat will be opposite to the flat of U ?
 (a) V (b) Q (c) T (d) S
81. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:
 (a) 1 : 3 (b) 3 : 2
 (c) 3 : 4 (d) None of these
82. What was the day of the week on 28th May, 2006?
 (a) Thursday (b) Friday
 (c) Saturday (d) Sunday
83. A hall is 15 m long and 12 m broad. If the sum of the areas of the floor and the ceiling is equal to the sum of the areas of four walls, the volume of the hall is:
 (a) 720 (b) 900 (c) 1200 (d) 1800

84. 50 men took a dip in a water tank 40 m long and 20 m broad on a religious day. If the average displacement of water by a man is 4 m^3 , then the rise in the water level in the tank will be:
 (a) 20 cm (b) 25 cm (c) 35 cm (d) 50 cm
85. It is being given that $(2^{32} + 1)$ is completely divisible by a whole number. Which of the following numbers is completely divisible by this number?
 (a) $(2^{16} + 1)$ (b) $(2^{16} - 1)$
 (c) (7×2^{23}) (d) $(2^{96} + 1)$
86. The largest 4 digit number exactly divisible by 88 is:
 (a) 9944 (b) 9768 (c) 9988 (d) 8888
87. On dividing a number by 56, we get 29 as remainder. On dividing the same number by 8, what will be the remainder ?
 (a) 4 (b) 5 (c) 6 (d) 7
88. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?
 (a) 9 (b) 10 (c) 11 (d) 12
89. 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?
 (a) 10 (b) 13 (c) 14 (d) 15
90. In a camp, there is a meal for 120 men or 200 children. If 150 children have taken the meal, how many men will be catered to with remaining meal?
 (a) 20 (b) 30 (c) 40 (d) 50

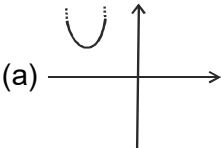
SECTION - B

91. In which of the following groups of organisms, food material is broken down outside the body and absorbed ?
 (a) Mushroom, green plants, Amoeba
 (b) Yeast, mushroom, bread mould
 (c) Paramecium, Amoeba, Cuscuta
 (d) Cuscuta, lice, tapeworm
92. The inner lining of stomach is protected by one of the following from hydrochloric acid. Choose the correct one
 (a) Pepsin (b) Mucus
 (c) Salivary amylase (d) Bile
93. Which is the correct sequence of air passage during inhalation ?
 (a) Nostrils → larynx → pharynx → trachea → lungs
 (b) Nasal passage → trachea → pharynx → larynx → alveoli
 (c) larynx → nostrils → pharynx → lungs
 (d) Nostrils → pharynx → larynx → trachea → alveoli
94. During respiration exchange of gases take place in
 (a) trachea and larynx (b) alveoli of lungs
 (c) alveoli and throat (d) throat and larynx
95. In which of the following vertebrate group/groups, heart does not pump oxygenated blood to different parts of the body ?
 (a) Pisces and amphibians
 (b) Amphibians and reptiles
 (c) Amphibians only (d) Pisces only
96. During deficiency of oxygen in tissues of human beings, pyruvic acid is converted into lactic acid in the
 (a) cytoplasm (b) chloroplast
 (c) mitochondria (d) golgi body
97. Posture and balance of the body is controlled by
 (a) cerebrum (b) cerebellum
 (c) medulla (d) pons
98. Spinal cord originates from
 (a) cerebrum (b) medulla
 (c) pons (d) cerebellum
99. Iodine is necessary for the synthesis of which hormone ?
 (a) Adrenaline (b) Thyroxin
 (c) Auxin (d) Insulin
100. The growth of tendril in pea plants is due to
 (a) effect of light (b) effect of gravity
 (c) rapid cell divisions in tendrillar cells that are away from the support
 (d) rapid cell divisions in tendrillar cells in contact with the support
101. If a man with blood group O is married with a female having blood group AB, which blood group is not possible in their child?
 (a) Only blood group O.
 (b) Only blood group AB.
 (c) Only blood group B
 (d) Both blood groups AB and O.

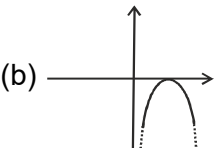
- 102.** In which part of body of human being “ C-shaped incomplete cartilaginous ring is found ?
 (a) Intestine. (b) Urinary tract.
 (c) Trachea.
 (d) Both Trachea and Esophagus.
- 103.** The theory that “The organs which in continuous use develops more vigorously and those which in less use gradually becomes non functional” is given by
 (a) Darwin. (b) Linnaeus.
 (c) Lamarck. (d) Pasteur.
- 104.** Human brain is located in cranium of skull. It is covered by a tissue which is known as
 (a) Pia matter. (b) Meninges.
 (c) Peritonium
 (d) Pericrinal membrane.
- 105.** Who is regarded as father of modern genetics?
 (a) Lamarck. (b) T.H. Morgan.
 (c) Darwin. (d) Mendel.
- 106.** The flowering plants with covered seed are regarded as
 (a) Gymnosperm plant.
 (b) Angiosperm plant.
 (c) All the phenerogamous plants
 (d) All of the above statements are correct.
- 107.** Which of the following physiological process is responsible for loss of extra water absorbed by plants?
 (a) Photosynthesis. (b) Cell respiration.
 (c) Transpiration. (d) Excretion.
- 108.** Which of the following cell organelle shows polymorphism?
 (a) Lysosome. (b) Mitochondria.
 (c) Golgi complex. (d) None of the above.
- 109.** Site of Krebs cycle is
 (a) Stroma of mitochondria.
 (b) Inner side of inner mitochondrial membrane.
 (c) Outer side of inner mitochondrial membrane
 (d) Matrix of mitochondria..
- 110.** Which statement is correct about respiration?
 (a) Fermentation is an example of aerobic respiration.
 (b) Respiration in absence of O₂ may be said as anaerobic respiration.
 (c) Aerobic respiration takes place in cytoplasm.
 (d) All of the above statements are incorrect.
- 111.** Process of exchange of gasses between surrounding environment and lungs may be said as
 (a) Cellular respiration. (b) Glycolysis.
 (c) Krebs cycle. (d) Ventilation.
- 112.** Which of the following ion is involved in the blood clotting mechanism?
 (a) Mg²⁺ (b) Ca²⁺
 (c) Phosphate. (d) All of the above.
- 113.** Deficiency of which of the following vitamin causes anemia?
 (a) Vit. B1. (b) Vit. B2.
 (c) Vit. B12. (d) Vit. C.
- 114.** Which of the following is correct for protein?
 (a) Protein is polypeptide chain.
 (b) There are at least 20 amino acids are found in protein.
 (c) Proteins are synthesized on m-RNA.
 (d) All the above statements are correct.
- 115.** Which of the following is correct for Jaundice?
 (a) Liver is affected.
 (b) Water born disease.
 (c) In this disease bile pigment is get stored under skin and cornea.
 (d) All of the above statements are correct.
- 116.** Which of the following group of organisms belongs from division Thallophyta?
 (a) Cladophora, Marsiela, Chara.
 (b) Cladophora, Ipomoea, Marsiela.
 (c) Cladophora, Ulothrix, Ipomoea.
 (d) Cladophora, Chara, Ulothrix.
- 117.** Study of bone is known as
 (a) Chondriology. (b) Ophthalmology.
 (c) Osteiology. (d) Nephrology.

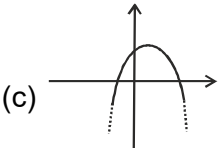
118. At first the true coelom appears in
 (a) Phylum- Arthropoda.
 (b) Phylum Annelida.
 (c) Phylum- Porifera.
 (d) Phylum- Cnideria.
119. Which kind of blood vascular system is found in cockroach?
 (a) Closed vascular system.
 (b) Lymphatic system.
 (c) Open circulatory system.
 (d) Both (a) and (c).
120. Which of the following is chief stored food material in fungi?
 (a) Starch. (b) Maltose.
 (c) Glycogen. (d) Glucose.

SECTION-C

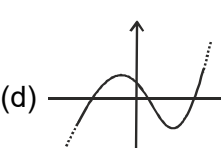
91. If two positive integers a and b are written as :
 $a = x^3y^2$ and $b = xy^3$, x, y are prime numbers, then HCF (a,b) is
 (a) xy (b) xy^2 (c) x^3y^3 (d) x^2y^2
92. If the zeroes of the quadratic polynomial $x^2 + (a+1)x + b$ are 2 and -3, then
 (a) $a = -7, b = -1$ (b) $a = 5, b = -1$
 (c) $a = 2, b = -6$ (d) $a = 0, b = -6$
93. Which of the following is not the graph of a quadratic polynomial ?
- 

(a)



(b)
- 

(c)



(d)
94. The pair of equations $x + 2y + 5 = 0$ and $-3x - 6y + 1 = 0$ have
 (a) a unique solution
 (b) exactly two solutions
 (c) infinitely many solutions
 (d) no solution
95. Aruna has only Rs 1 and Rs 2 coins with her. If the total number of coins that she has is 50 and the amount of money with her is Rs 75,

then the number of Re 1 and Rs 2 coins are, respectively.

- (a) 35 and 15 (b) 35 and 20
 (c) 15 and 35 (d) 25 and 25
96. The father's age is six times his son's age. Four years hence, the age of the father will be four times his son's age. The present ages, in years, of the son and the father are, respectively.
 (a) 4 and 24 (b) 5 and 30
 (c) 6 and 36 (d) 3 and 24
97. Which of the following equations has no real roots ?
 (a) $x^2 - 4x + 3\sqrt{2} = 0$ (b) $x^2 + 4x - 3\sqrt{2} = 0$
 (c) $x^2 - 4x - 3\sqrt{2} = 0$ (d) $3x^2 + 4\sqrt{3}x + 4 = 0$
98. The 21st term of the AP whose first two terms are -3 and 4 is :
 (a) 17 (b) 137 (c) 143 (d) -143
99. Two APs have the same common difference. The first term of one of these is -1 and that of the other is -8. Then the difference between their 4th terms is :
 (a) -1 (b) -8 (c) 7 (d) -9
100. The sum of first 16 terms of the AP: 10, 6, 2, ... is
 (a) -320 (b) 320 (c) -352 (d) -400
101. The lengths of the diagonals of a rhombus are 16cm and 12 cm. Then, the length of the side of the rhombus is
 (a) 9 cm (b) 10 cm (c) 8 cm (d) 20 cm
102. In triangles, ABC and DEF, $\angle B = \angle E, \angle F = \angle C$ and $AB = 3 DE$. Then, the two triangles are
 (a) congruent but not similar
 (b) similar but not congruent
 (c) neither congruent nor similar
 (d) congruent as well as similar
103. AOBC is a rectangle whose three vertices are vertices A(0,3), O(0,0) and B(5,0). The length of its diagonal is :
 (a) 5 (b) 3 (c) $\sqrt{34}$ (d) 4
104. The fourth vertex D of a parallelogram ABCD whose three vertices are A(-2,3), B(6,7) and C(8,3) is :
 (a) (0,1) (b) (0,-1) (c) (-1,0) (d) (1,0)

105. A line intersects the y-axis and x-axis at the points P and Q, respectively. If $(2, -5)$ is the mid-point of PQ, then the coordinates of P and Q are, respectively

- (a) $(0, -5)$ and $(2, 0)$ (b) $(0, 10)$ and $(-4, 0)$
 (c) $(0, 4)$ and $(-10, 0)$ (d) $(0, -10)$ and $(4, 0)$

106. The area of a triangle with vertices $(a, b+c)$, $(b, c+a)$ and $(c, a+b)$ is

- (a) $(a+b+c)^2$ (b) 0
 (c) $a+b+c$ (d) abc

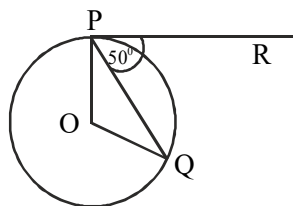
107. If $\cos 9\alpha = \sin \alpha$ and $9\alpha < 90^\circ$, then the value of $\tan 5\alpha$ is :

- (a) $\frac{1}{\sqrt{3}}$ (b) $\sqrt{3}$ (c) 1 (d) 0

108. If $\sin A + \sin^2 A = 1$, then the value of the expression $(\cos^2 A + \cos^4 A)$ is :

- (a) 1 (b) $\frac{1}{2}$ (c) 2 (d) 3

109. In figure, if O is the centre of a circle, PQ is a chord and the tangent PR at P makes an angle of 50° with PQ, then $\angle POQ$ is equal to



- (a) 100° (b) 80° (c) 90° (d) 75°

110. If the perimeter of a circle is equal to that of a square, then the ratio of their areas is:

- (a) 22 : 7 (b) 14 : 11
 (c) 7 : 22 (d) 11 : 14

111. The area of the circle that can be inscribed in a square of side 6 cm is:

- (a) $36 \pi \text{ cm}^2$ (b) $18 \pi \text{ cm}^2$
 (c) $12 \pi \text{ cm}^2$ (d) $9 \pi \text{ cm}^2$

112. A cone is cut through a plane parallel to its base and the cone that is formed on one side of that plane is removed. The new part that is left over on the other side of the plane is called

- (a) a frustum of a cone (b) cone
 (c) cylinder (d) sphere

113. Find the area of quadrilateral PQRS whose sides are 9m, 40m, 28m and 15m respectively and the angle between first two sides is a right angle.

- (a) 306 m^2 (b) 218 m^2
 (c) 356 m^2 (d) None

114. ABC is a right triangle such that $AB = AC$ and bisector of angle C intersects the side AB at D.

Then $AC + AD =$

- (a) $\frac{1}{2}BC$ (b) $\frac{1}{4}BC$
 (c) BC (d) None of these

115. If bisectors of A and B of a quadrilateral ABCD intersect each other at P, of B and C at Q, of C and D at R and of D and A at S, then PQRS is a

- (a) rectangle (b) rhombus
 (c) parallelogram
 (d) quadrilateral whose opposite angles are supplementary

116. S is any point in the interior of PQR. Then which of the following option is correct ?

- (a) $SQ + SR < PQ + PR$
 (b) $SQ + SR > PQ + PR$
 (c) $SQ + SR = PQ + PR$
 (d) None of these

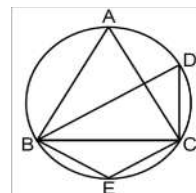
117. In a circle if a chord AB is nearer to the centre O than the chord CD then

- (a) $AB = CD$ (b) $AB > CD$
 (c) $AB < CD$ (d) $AB = CD$

118. The number of planks of dimensions $(4 \text{ m} \times 50 \text{ cm} \times 20 \text{ cm})$ that can be stored in a pit which is 16 m long, 12m wide and 4 m deep is :

- (a) 1900 (b) 1920 (c) 1800 (d) 1840

119. In the given figure if ABC is an equilateral triangle then the value of BEC is



- (a) 30° (b) 60°
 (c) 120° (d) 180°

120. The surface area of a sphere of radius 5 cm is five times the area of the curved surface of a cone of radius 4 cm. Find the volume of the cone (taking $\pi = 22/7$)

- (a) 55.29 cm^3 (b) 50.29 cm^3
 (c) 60.29 cm^3 (d) 72.29 cm^3



ODM SCHOLARSHIP ADMISSION TEST 2019

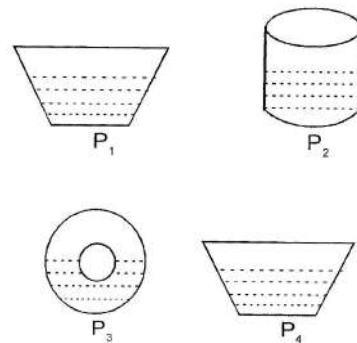
OSAT | Nucleus 40

SAMPLE QUESTION PAPER

SECTION – A

- 01.** The acceleration of a moving body can be found from
 (a) Area under velocity-time graph
 (b) Area under distance-time graph
 (c) Slope of the velocity-time graph
 (d) Slope of distance-time graph
- 02.** A cricket ball of mass 250 g collides with a bat with velocity 10 m/s and returns with the same velocity within 0.01 second. The force acted on bat is
 (a) 25 N (b) 50 N (c) 250 N (d) 500 N
- 03.** The gravitational force between two stones of mass 1 kg each separated by a distance of 1 metre in vacuum is
 (a) Zero (b) $6.675 \times 10^{-5} \text{ N}$
 (c) $6.675 \times 10^{-11} \text{ N}$ (d) $6.675 \times 10^{-8} \text{ N}$
- 04.** The kinetic energy acquired by a body of mass m is travelling some distance s , starting from rest under the actions of a constant force, is directly proportional to
 (a) m^0 (b) m (c) m^2 (d) \sqrt{m}
- 05.** A particle experiences a constant acceleration for 20 sec after starting from rest. If it travels a distance S_1 in the first 10 sec and a distance S_2 in the next 10 sec, then
 (a) $S_1 = S_2$ (b) $S_1 = S_2/3$
 (c) $S_1 = S_2/2$ (d) $S_1 = S_2/4$
- 06.** A thief stole a box full of valuable articles of weight W and while carrying it on his back, he jumped down a wall of height 'h' from the ground. Before he reached the ground he experienced a load of
 (a) $2W$ (b) W (c) $W/2$ (d) Zero
- 07.** Two planets have the same average density but their radii are R_1 and R_2 . If acceleration due to gravity on these planets be g_1 and g_2 respectively, then
 (a) $\frac{g_1}{g_2} = \frac{R_1}{R_2}$ (b) $\frac{g_1}{g_2} = \frac{R_2}{R_1}$
 (c) $\frac{g_1}{g_2} = \frac{R_1^2}{R_2^2}$ (d) $\frac{g_1}{g_2} = \frac{R_1^3}{R_2^3}$
- 08.** A metallic block of density 5 gm cm^{-3} and having dimensions $5 \text{ cm} \times 5 \text{ cm} \times 5 \text{ cm}$ is weighed in water. Its apparent weight will be
 (a) $5 \times 5 \times 5 \times 5 \text{ gf}$ (b) $4 \times 4 \times 4 \times 4 \text{ gf}$
 (c) $5 \times 4 \times 4 \times 4 \text{ gf}$ (d) $4 \times 5 \times 5 \times 5 \text{ gf}$
- 09.** Two bodies of masses m_1 and m_2 have equal kinetic energies. If p_1 and p_2 are their respective momentum, then ratio $p_1 : p_2$ is equal to
 (a) $m_1 : m_2$ (b) $m_2 : m_1$
 (c) $\sqrt{m_1 : m_2}$ (d) $m_1^2 : m_2^2$
- 10.** The depth d at which the value of acceleration due to gravity becomes $\frac{1}{n}$ times the value at the surface, is
 [R = radius of the earth]
 (a) $\frac{R}{n}$ (b) $R \left(\frac{n-1}{n} \right)$
 (c) $\frac{R}{n^2}$ (d) $R \left(\frac{n}{n+1} \right)$
- 11.** A stone tied to the end of a string 80 cm is whirled in a horizontal circle with a constant speed. If the stone makes 14 revolutions in 25 sec. What is the magnitude of the angular speed ?
 (a) 2.54 rad/s (b) 3.52 rad/s
 (c) 1.34 rad/s (d) 4.78 rad/s
- 12.** A particle of mass m_1 moving with velocity v collides with a mass m_2 at rest, and it is found that the moving mass embeds itself in the second mass at rest. Just after collision, velocity of the system.
 (a) Increases (b) Decreases
 (c) remains constant (d) becomes zero
- 13.** If the value of 'g' (acceleration due to gravity) at a height h above the surface of the earth is the same as at a depth d below it, then (Assume that h and $d \ll R$ where R = earth's radius):
 (a) $h = d$ (b) $h = d/2$
 (c) $d = 2h$ (d) $d = h^2$

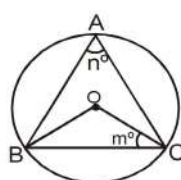
14. An empty chamber of petrol of volume 50 litre has a mass 8 kg. It is filled with petrol of relative density 0.7. The mass of the petrol chamber is :
 (a) 23 kg (b) 33 kg (c) 43 kg (d) 53 kg
15. A force acts on a 30 gm particle in such a way that the position of the particle as a function of time is given by $x = 3t - 4t^2 + t^3$, where x is in metres and t is in seconds. The work done during the first 4 seconds is :
 (a) 5.28 J (b) 6.28 J (c) 10 J (d) 8.85 J
16. Ultrasonic, infrasonic and audible waves travel through a medium with speeds v_u, v_i and v_a respectively, then :
 (a) $v_u < v_i < v_a$ (b) $v_u > v_i > v_a$
 (c) $v_u = v_i = v_a$ (d) $v_i < v_a < v_u$
17. The coordinates of a moving particle at any time 't' are given by $x = at^2$ and $y = bt^2$. The speed of the particle at any moment is :
 (a) $2t(a + b)$ (b) $2t\sqrt{(a^2 - b^2)}$
 (c) $t\sqrt{a^2 + b^2}$ (d) $2t\sqrt{(a^2 + b^2)}$
18. Gravels are dropped on to a conveyor belt at the rate of 0.5 kgs^{-1} . The extra force (in newton) required to keep the belt moving at 2 ms^{-1} is :
 (a) 1 (b) 2 (c) 4 (d) 5
19. The acceleration due to gravity on the surface of the moon is one sixth that on the surface of earth's and the diameter of the moon is one fourth of that of earth. The ratio of escape velocity on moon and earth will be :
 (a) $\frac{1}{\sqrt{24}}$ (b) $\frac{2}{\sqrt{16}}$ (c) $\frac{2}{\sqrt{3}}$ (d) $\sqrt{24}$
20. A liquid is kept in a cylindrical vessel which is being rotated about a vertical axis through the centre of the circular base. If the radius of the vessel is r and angular velocity of rotation is ω , then the difference in the heights of the liquid at the centre of the vessel and the edge is
 (a) $\frac{r^2\omega^2}{4g}$ (b) $\frac{r^2\omega^2}{2g}$ (c) $\frac{r^2\omega^2}{8g}$ (d) $\frac{r^2\omega^2}{6g}$
21. The lungs perform 2.4 J of work during each expansion. How many times they expand per minute if their power is 4 Watt ?
 (a) 100 (b) 50 (c) 72 (d) 36
22. A man standing on a cliff claps his hand hears its echo after 1 sec. If sound is reflected from another mountain and velocity of sound in air is 340 m/sec. Then the distance between the man and reflection point is :
 (a) 680 m (b) 340 m (c) 85 m (d) 170 m
23. A car moves a distance of 200 km. It covers the first half of the distance at speed 40 km/h and second half of the distance by speed v . The average speed is 48 km/h. Find the value of v .
 (a) 56 km/h (b) 60 km/h
 (c) 50 km/h (d) 58 km/h
24. A player stops a football weighing 0.5 kg which comes flying towards him with a velocity of 10 m/s. If the impact lasts for $1/50$ th sec. and the ball bounces back with a velocity of 15 m/s, then the average force involved is :
 (a) 250 N (b) 1250 N
 (c) 500 N (d) 625 N
25. Four particles each of mass m , are placed at the vertices of square and are moving along a circle of radius r under the influence of mutual gravitational attraction. The speed of each particle will be :
 (a) $\sqrt{\frac{Gm}{r}}(2\sqrt{2}+1)$ (b) $\sqrt{\frac{Gm}{r}}$
 (c) $\sqrt{\frac{Gm}{r}}(2\sqrt{2}-1)$ (d) $\sqrt{2\sqrt{2}\frac{Gm}{r}}$
26. The pressure at the bottom of the four vessels filled with water to the same level is P_1, P_2, P_3 and P_4 respectively. Then which of the following conclusion is correct.



- (a) $P_1 > P_2 > P_3 > P_4$ (b) $P_1 < P_2 < P_3 < P_4$
 (c) $P_1 = P_4 = P_2 > P_3$ (d) $P_1 = P_2 = P_3 = P_4$
27. 3.01×10^{23} molecules of elemental Sulphur will react with 0.5 mole of oxygen gas completely to produce
 (a) 6.02×10^{23} molecules of SO_3
 (b) 6.02×10^{23} molecules of SO_2
 (c) 3.01×10^{23} molecules of SO_3
 (d) 3.01×10^{23} molecules of SO_2
28. The element X which form a stable product of the type XCl_4 is :
 (a) Al (b) Na (c) Ca (d) Si
29. One mole of CO_2 means :
 (a) 4.4 gm CO_2 (b) STP
 (c) $CO_2 + 6.022 \times 10^{23}$ (d) 22 gm CO_2
30. Alpha particles are
 (a) helium atom (b) helium gas
 (c) positively charged helium ions
 (d) helium electrons
31. A proton is actually a
 (a) hydrogen atom which has lost its electron
 (b) helium atom which has gained one electron
 (c) helium atom which has lost its electron
 (d) hydrogen atom which has gained one electron
32. When a paper is burnt it is considered a chemical change because
 (a) the change is temporary
 (b) there is no change in mass
 (c) the volume is changed
 (d) the chemical composition changes and the change is permanent
33. A mixture of chalk powder and water can be separated by using the technique of filtration because
 (a) chalk powder remains suspended in water
 (b) they form a miscible solution
 (c) the mixture can easily pass through filter paper
 (d) Water acts as a good solvent
34. The principle used in diagnostic laboratories for blood and urine tests is
 (a) Chromatography (b) Evaporation
 (c) Filtration (d) centrifugation
35. Fusion is the process of conversion of
 (a) liquid into gas (b) solid into gas
 (c) solid into liquid (d) liquid into solid
36. Which of the following statements is/are correct ?
 (a) Intermolecular forces of attraction in solids are maximum.
 (b) Intermolecular forces of attraction in gases are minimum.
 (c) Intermolecular spaces in solids are minimum.
 (d) All of the above
37. Which of the following is a characteristic property of both mixtures and compounds ?
 (a) Their properties are same as those of their components
 (b) Energy is released when they are formed
 (c) Their masses are equal to the sum of the masses of their components.
 (d) They contain the components in fixed proportions.
38. Hydrogen and oxygen combine in the ratio of 1 : 8 by mass to form water. What mass of oxygen gas would be required to react completely with 3g of hydrogen gas ?
 (a) 24 g (b) 27 g (c) 21 g (d) 3 g
39. The mass of a proton is :
 (a) 1.6725×10^{-24} g (b) 9.1090×10^{-28} g
 (c) 1.6725×10^{-24} g (d) None of these
40. Which element has a definite volume but no shape ?
 (a) Mercury (b) Iron
 (c) Tin (d) Steel
41. Which of the following is a heterogeneous mixture ?
 (a) Air (b) Brass
 (c) Iodised table salt (d) Steel
42. A chemical equation is always balanced to fulfill the condition of
 (a) Law of constant proportions
 (b) Law of multiple proportions
 (c) Law of conservation of mass
 (d) All of these

43. What is the chemical formula of Sodium phosphate ?
 (a) Na_3PO_4 (b) Na_3PO_3
 (c) Na_3PO_2 (d) NaPO_4
44. Ice floats on water because :
 (a) density of ice is higher than water
 (b) density of ice is lower than water
 (c) temperature of ice is lower than water
 (d) temperature of water is higher than ice
45. Presence of impurities :
 (a) lowers the boiling point of liquid
 (b) increases the melting point of solid
 (c) increases the boiling point of liquid
 (d) none of these
46. A chemical equation is balanced in accordance with the law of :
 (a) conservation of mass
 (b) multiple proportion
 (c) constant proportion
 (d) reciprocal proportion
47. Which of the following has 4-electrons in its valence shell ?
 (a) He (b) Si (c) Be (d) Li
48. The smell of perfume spreads out by a process known as :
 (a) evaporation (b) diffusion
 (c) condensation (d) fusion
49. Which of the following will diffuse faster ?
 (a) H_2 (b) Fe (c) Na (d) Hg
50. Which of the following atoms contain least number of neutrons ?
 (a) ${}_{92}^{235}\text{U}$ (b) ${}_{92}^{238}\text{U}$ (c) ${}_{93}^{239}\text{Np}$ (d) ${}_{93}^{240}\text{Np}$

SECTION – B (51 TO 75)

51. If $2^x - 2^{x-1} = 16$, then the value of x^2 is :
 (a) 4 (b) 9 (c) 16 (d) 25
52. The remainder obtained when $t^6 + 3t^2 + 10$ is divided by $t^3 + 1$ is :
 (a) $t^2 - 11$ (b) $3t^2 + 11$
 (c) $t^3 - 1$ (d) $t^4 + 1$
53. The reflection of the line $y = -3$ on the x-axis is,
 (a) $x = -3$ (b) $x = 3$
 (c) $y = 3$ (d) $y = 0$
54. The bisectors of angles of a parallelogram makes a figure which is
 (a) Rectangle (b) Circle
 (c) Pentagon (d) Octagon
55. The figure obtained by joining the mid-points of the adjacent sides of a rectangle of sides 8 cm and 6 cm is :
 (a) a rectangle of area 24cm^2
 (b) a square of area 25cm^2
 (c) a trapezium of area 24cm^2
 (d) a rhombus of area 24cm^2
56. In the given figure, O is the centre of the circle and $\angle\text{BAC} = n^\circ$, $\angle\text{OCB} = m^\circ$, then :

 (a) $m + n = 90^\circ$ (b) $m + n = 180^\circ$
 (c) $m + n = 120^\circ$ (d) $m + n = 150^\circ$
57. The value of $\left(\sqrt[6]{27} - \sqrt{6\frac{3}{4}}\right)^2$
 (a) $\sqrt{\frac{3}{2}}$ (b) $\sqrt{\frac{3}{4}}$ (c) $\frac{3}{2}$ (d) $\frac{3}{4}$
58. A cone is 8.4 cm high and the radius of its base is 2.1 cm. It is melted and recast into a sphere. The radius of the sphere is :
 (a) 4.2 cm (b) 2.1 cm
 (c) 2.4 cm (d) 1.6 cm
59. A bag contains 20 balls of different colours. The probability of drawing a black ball is $\frac{4}{5}$ then number of black balls in the bag is :
 (a) 14 (b) 15 (c) 16 (d) 20
60. If R_1 and R_2 are remainders when $x^3 + 2x^2 - 5ax - 7$ and $x^3 + ax^2 - 12ax + 6$ are divided by $x + 1$ and $x - 2$ and if $2R_1 + R_2 = 6$, then the value of a is -
 (a) $-\frac{2}{5}$ (b) 2 (c) 3 (d) 4
61. The line $x + 5y - 20 = 0$ passes through
 (a) (5,1) (b) (5,3) (c) (5,-3) (d) (3,5)

62. Find the measure of an angle, if seven times its complement is 10° less than three times its supplement.
(a) 40° (b) 25° (c) 30° (d) 15°
63. The sides of a triangle are 10 cm, 24 cm and 26 cm. Find its longest altitude.
(a) 36 cm (b) 24 cm
(c) 48 cm (d) None
64. One fourth of one third of one half of a number is 12, then number is :
(a) 284 (b) 286 (c) 288 (d) 290
65. One angle of a cyclic quadrilateral is twice its opposite angle. Then the smaller of the two angles is
(a) 30° (b) 45°
(d) 60° (d) None of these
66. If $\sqrt{14+6\sqrt{5}} = a+\sqrt{b}$, then find value of $a+b$.
(a) $3+\sqrt{5}$ (b) $3\sqrt{5}$
(c) 8 (d) $5\sqrt{5}$
67. The radii of two cylinders are in the ratio of 2:3 and their heights are in the ratio of 5:3. The ratio of their volumes is :
(a) 10 : 17 (b) 20 : 27
(c) 17 : 27 (d) 20 : 37
68. Cards marked with the numbers 2 to 101 are placed in a box and mixed thoroughly. One card is drawn from this bag. The probability that the number on the card is a prime less than 50 is :
(a) $\frac{3}{20}$ (b) $\frac{1}{20}$ (c) $\frac{7}{20}$ (d) $\frac{11}{20}$
69. D and E are the mid-points of the sides AB and AC respectively of ABC. DE is produced to F. To prove that CF is equal and parallel to DA, we need an additional information which is :
(a) $\angle DAE = \angle EFC$ (b) $AE = EF$
(c) $DE = EF$ (d) $\angle ADE = \angle ECF$
70. Ray OS stands on a line POQ. Ray OR and ray OT are angle bisectors of $\angle POS$ and $\angle SOQ$, respectively. If $\angle POS = x$, find $\angle ROT$.
(a) 60° (b) 80°
(c) 90° (d) None of these
71. An isosceles triangle have equal sides 12 cm and base is 18 cm. Then the height of the triangle corresponding to the base (in cm) is :
(a) 3 (b) $3\sqrt{7}$ (c) $3\sqrt{11}$ (d) 6
72. E is the mid-point of a median AD of ABC and BE is produced to meet AC at F. Then AF =
(a) $\frac{1}{2}$ AC (b) $\frac{1}{3}$ AC
(c) $\frac{1}{4}$ AC (d) None of these
73. If $x = 2 + \sqrt{3}$ then $x^2 + \frac{1}{x^2} =$
(a) $14\sqrt{2}$ (b) $12\sqrt{2}$
(c) 12 (d) 14
74. The value of $(a^{1/8} + a^{-1/8})(a^{1/8} - a^{-1/8})(a^{1/4} + a^{-1/4})(a^{1/2} + a^{-1/2})$ is :
(a) $(a + a^{-1})$ (b) $(a - a^{-1})$
(d) $(a^2 - a^{-2})$ (d) None of these
75. The radius of a sphere is increased by 10%. Then the percentage increase in volume will be approximately.
(a) 30.1 % (b) 33.1 %
(d) 31.5 % (d) 36.33 %

SECTION - C (51 to 90)

51. Haploid number of chromosome in onion is
(a) 20 (b) 30 (c) 16 (d) 18
52. In human body the digestion of protein starts in
(a) Mouth cavity (b) Small intestine
(c) Stomach (d) Liver
53. Which of the following enzyme is secreted by liver in human being
(a) Lysozyme (b) Lipase
(c) Protease
(d) No enzyme is secreted by the liver
54. A normal man is married with a normal but carrier color blind female. What is probability of color blind female offspring.

- (a) 50% will be color blind
 (b) 50% will be normal but carrier female off spring
 (c) No female off spring will be color blind
 (d) Data given is insufficient
- 55.** Schizocoelom may be found in
 (a) Cockroach (b) Star fish
 (c) Human being (d) All of the above
- 56.** Which of the following cannot be the characteristics of skeletal muscle
 (a) Syncytial (b) Striation absent
 (c) Usually unbranched
 (d) Under control of our will
- 57.** Which of the following cell organelle is responsible for detoxification?
 (a) Lysosome (b) G. complex
 (c) Smooth endoplasmic reticulum
 (d) Rough endoplasmic reticulum
- 58.** The fluid mosaic model of plasma membrane was given by
 (a) Danielli and Davson
 (b) Robertson
 (c) Michell
 (d) Singer and Nicolson
- 59.** Which of the following plant tissue has ability to divide
 (a) Parenchyma tissue
 (b) Meristematic tissue
 (c) Chlorenchyma tissue
 (d) Collenchyma tissue
- 60.** A child has blood group O. Which of the following antigen is found at the surface of plasma membrane of his RBC ?
 (a) A (b) B
 (c) AB (d) None of the above
- 61.** Which of the following is surgical technique used in male to prevent pregnancy?
 (a) IUDs (b) Tubectomy
 (c) Vasectomy (d) All of the above
- 62.** Energy flow in food chain follows
 (a) 90% rule (b) 25% rule
 (c) 100% rule (d) 10% rule
- 63.** Which of the following is main function of Intergovernmental panel on climate change?
 (a) Regular assessment of concentration of Ozone in environment and recording their impact on global environment
 (b) Regular assessment of concentration of green house gases and recording their impact on global environment
 (c) Regular assessment of biomagnifications and recording their impact on global environment
 (d) Assessment of flow of energy in environment
- 64.** The phenomenon of progressive increase in concentration of harmful non-biodegradable chemicals at different trophic level in food chain is known as
 (a) Eutrophication (b) Littering
 (c) Biomagnification (d) Biodegradation
- 65.** The average temperature of earth's surface is about
 (a) 15 degree Centigrade
 (b) 20 degree Centigrade
 (c) 30 degree centigrade
 (d) Does not remain fixed
- 66.** Which of the following group of gases are green house gases?
 (a) CH₄, CO₂, and SO₂
 (b) CH₄, CO₂, and N₂O
 (c) CFC, CO₂, and SO₂
 (d) All of the above
- 67.** Which of the following is correct expansion of IUCN?
 (a) International union for conservation of nature and natural resources
 (b) International unity of nations
 (c) International university of nature and natural resources
 (d) International union of nations for conservation of natural resources

68. Which of the following organization is responsible to regulate international trades of wild flora and fauna?
 (a) CITES (b) IUCN
 (c) IBWL (d) All of the above
69. Pick the right combination of terms which has no fossil fuel.
 (a) Wind, Ocean and Coal
 (b) Kerosene, Wind, and Tide
 (c) Wind, Wood, Sun
 (d) Petroleum, Wood and Sun
70. Which of the following is correct expansion of CNG
 (a) Combined natural gas
 (b) Compressed natural gas
 (c) Compressed normal gas
 (d) Combined natural gases
71. If the testa is removed from water soaked gram seed the remaining structure is
 (a) Full mature embryo
 (b) Cotyledon with endosperm
 (c) Cotyledon filled with starch
 (d) Half mature embryo
72. The differences in the traits shown by the individuals of a species is referred as
 (a) Heredity (b) Evolution
 (c) Variation (d) Genetics
73. Which of the pair of structures have different embryonic origin but they are adapted to perform same function?
 (a) Tendril of Passiflora and Thorn of Bougainvillea
 (b) Potato and Sweet potato
 (c) Fore limb of Birds and Fore limb of Tiger
 (d) Brain of Frog and Brain of Rabbit
74. Which of the following is not correct for the homologous organs?
 (a) Perform different function
 (b) Having different basic plan but similar origin
 (c) Depicts divergent evolution or adaptive radiation
 (d) None of the above
75. Which of the following is vestigial organ in human beings
 (a) Wisdom tooth
 (b) Nictitating membrane
 (c) Vermiform appendix
 (d) All of the above
76. The multicellular organism that reproduces by budding is
 (a) Rhizopus (b) Agaricus
 (c) Hydra (d) Yeast
77. Which of the following is not function of testes at puberty?
 I. Formation of germ cells
 II. Secretion of testosterone
 III. Development of placenta
 IV. Secretion of Oestrogen
 (a) (i) and (ii) (b) (ii) and (iii)
 (c) (iii) (d) (i) and (iv)
78. Choose the name of disease which is not STD
 (a) Syphilis (b) Hepatitis
 (c) HIV-AIDS (d) Gonorrhoea
79. If $2N$ number of chromosome in the skin cell of an organism is 36. How many chromosome will be found in their unfertilized egg and zygote respectively
 (a) 36 and 36 (b) 18 and 18
 (c) 36 and 18 (d) 18 and 36
80. Which of the following is largest endocrine gland of our body?
 (a) Pancreas (b) Liver
 (c) Thyroid (d) Adrenal gland
81. Which of the following is regarded as master of all endocrine glands?
 (a) Pineal gland (b) Parathyroid gland
 (c) Pancreas (d) Pituitary gland

- 82.** Mineralocorticoid is a hormone which may also be known as Aldosterone. It regulates the water balance in our body. This hormone may be secreted by
(a) Pituitary gland (b) Adrenal medulla
(c) Adrenal cortex (d) Parathyroid gland
- 83.** Which of the following is said as fight and flight hormone?
(a) Glucocorticoids (b) Mineralocorticoids
(c) Androgen (d) Adrenalin
- 84.** Movement of curvature in plants due to turgor change may be known as
(a) Tropic movement (b) Nastic movement
(c) Locomotion (d) All of the above
- 85.** Which of the following organ system is responsible for chemical control and coordination of our body?
(a) Nervous system
(b) Muscular system
(c) Endocrine system
(d) Skeletal system
- 86.** Which of the following is correct for the voluntary muscle?
(a) Also known as striated muscle
(b) Associated with skeletal system
(c) Under control of our will
(d) All of the above
- 87.** In human beings the heart is
(a) Neurogenic (b) Myogenic
(c) Neuro-myogenic (d) None of the above
- 88.** Which of the following tissue in higher plants is responsible for translocation of food?
(a) Xylem and Phloem (b) Only Xylem
(c) Only Phloem (d) Parenchyma
- 89.** The bicuspid valve in human heart is found in between
(a) Right and left auricle
(b) Left and right ventricles
(c) Left artery and left vein
(d) Left auricle and left ventricle
- 90.** Structural and functional unit of kidney is
(a) Neuron (b) Nephron
(c) Glomerulus (d) Both (b) and (c)



ODM SCHOLARSHIP ADMISSION TEST 2019

OSAT | COMMERCE

SAMPLE QUESTION PAPER

ENGLISH

Pick out the most appropriate option from the choices to find words similar in meaning to the words given in the question below:

- 01.** Rite
(a) justice (b) straight
(c) Solemn activity (d) Faith
- 02.** Err
(a) To waver (b) To makes mistake
(c) to delay (d) None of the above.
- 03.** Respite
(a) Interval or rest (b) Breathe
(c) Fatigue (d) Tolerate.
- 04.** Regime
(a) order of procedure
(b) System of government
(c) Recipe for cooking (d) Peacefulness

- 05.** Berign
(a) Radiant (b) Religion
(c) Hopeful (d) Kindly
- Pick out the most appropriate option from the choices to find words opposite in meaning to the words given in the question below:

- 06.** Alert
(a) Cautious (b) Strong
(c) Dormant (d) Poor.
- 07.** Barbarous
(a) Civilized (b) Inimical
(c) Basic (d) Evil.
- 08.** Abandon
(a) Forgive (b) For sake
(c) Sympathise (d) Progress
- 09.** Adversity
(a) Priority (b) Popularity
(c) Prosperity (d) Adequacy.
- 10.** Blame
(a) Define (b) Appreciate
(c) Criticize (d) Scrutinize

- 11.** Supply suitable articles/ determiners in the following questions:

- He is _____ MP.
(a) a (b) an
(c) the (d) None of the above.
- 12.** She has done the work _____ .
(a) Himself (b) Herself
(c) Yourself (d) None of the above
- 13.** There is _____ sense in what he says.
(a) Not (b) Lot
(c) Neither (d) Little
- 14.** He is speaking like _____ Kalidas.
(a) The (b) a (c) An (d) that
- 15.** _____ of these mangoes is good.
(a) All (b) No (c) none (d) Some

Fill in the blanks with the right choice from the options given under each questions.

- 16.** Do not forget _____ the door when you go out
(a) Lock (b) Locked
(c) To lock (d) None of the above
- 17.** He has not _____ to complete the task.
(a) Forgotten (b) Forget
(c) Forgetting (d) None of the above
- 18.** Mother _____ tea for five minutes.
(a) Has prepared (b) Preparing
(c) Has been preparing (d) None of the above
- 19.** He will not come to the function unless he _____ .
(a) invited (b) was invited
(c) must invite (d) is invited
- 20.** No news _____ good news.
(a) Are (b) Is
(c) Can (d) None of the above
- Fill in the blanks with correct prepositions from the choice given below:
- 21.** The pond is devoid _____ water.
(a) To (b) By (c) Of (d) On

22. He has promised to abstain _____ liquor.
(a) On (b) From (c) To (d) By.
23. His current statement is contradictory _____ his yesterday's statement.
(a) On (b) By (c) To (d) In
24. They prefer tea _____ coffee.
(a) Of (b) For (c) In (d) To
25. You have to bear _____ the loss.
(a) For (b) With (c) In (d) On
26. You ought to take up swimming for the _____ of your health.
(a) Concern (b) Relief
(c) sake (d) cause
27. My remarks were _____ as a joke, but she was offended by them.
(a) pretended (b) thought
(c) meant (d) Supposed
28. I suggest , we _____ outside the stadium tomorrow at 8.30.
(a) meeting (b) meet (c) met (d) Will meet
29. Jane remained clam when she won the lottery and _____ about her business as if nothing had happened.
(a) came (b) Brought (c) went (d) Moved
30. National leaders from all over the world are expected to attend the _____ meeting.
(a) peak (b) summit (c) Top (d) apex
31. Mary was disappointed with her new shirt as the colour _____ very quickly.
(a) bleached (b) died
(c) Vanished (d) Faded.
32. The books _____ of ten chapters, each one covering a different topic.
(a) comprises (b) includes
(c) consists (d) Contains.
33. It was clear that the young couple were _____ of taking charge of the restaurant.
(a) responsible (b) reliable
(c) capable (d) able
34. _____ teaching English, she also writes children's book.
(a) moreover (b) as well as
(c) in addition (d) Apart.
35. She had changed so much that _____ anyone recognize her.
(a) almost (b) hardly (c) Not (d) nearly.
36. Fortunately _____ from a bump on the head, she suffered no seriopus injuries from her fall.
(a) other (b) except (c) besides (d) apart.
37. He spent a long time looking for a tie which _____ with the new shirt.
(a) fixed (b) made (c) Went (d) wore
38. Don't make such a _____ , the dentist is only going to look at your teeth.
(a) fuss (b) trouble
(c) worry (d) reaction.
39. She came to live here _____ a month ago.
(a) quite (b) beyond (c) already (d) almost
40. I have always _____ you as my friend.
(a) regarded (b) thought
(c) meant (d) waste.
41. Because it had not rained for several months, there was a _____ of water.
(a) shortage (b) drop
(c) scarce (d) waste
42. The singer ended the concert _____ her most popular song.
(a) by (b) with (c) in (d) as
43. My holiday in Paris gave me a great _____ to improve my French accent.
(a) occassion (b) chance
(c) hope (d) possibility
44. I will give my spare keys in case you _____ home before me.
(a) would get (b) got
(c) will get (d) get
45. The children won't go to sleep _____ we leave a light on outsight their bedroom.
(a) except (b) otherwise
(c) unless (d) But.

Read the paragraph carefully and fill in the blanks from the following questions:

Older Britons are the worst in Europe, when it comes to keeping their teeth, but British young stars.

46. _____ more to smile about because .
(a) getting (b) got (c) have (d) having
47. _____ teeth are among the best. Almost 80% of Britons over 65 have lost all or some.
(a) their (b) his (c) them (d) theirs
48. _____ their teeth, according to WHO survey. Eating too.
(a) from (b) of (c) among (d) between
49. _____ sugar is part of problem among.
(a) much (b) lot (c) many (d) Deal
50. _____, 12 years olds have an average on three missing, decayed or filled teeth.
(a) person (b) people
(c) children (d) Family

ECONOMICS

51. Who mints the coins in India?
(a) Ministry of finance
(b) Reserve Bank of India
(c) Prime minister of India
(d) Ministry of commerce and industry.
52. Who is the current Governor of Reserve Bank of India?
(a) Bimal Jalan (b) C D Desmukh
(c) Urjit Patel (d) Shaktikant das
53. Currently what is the share of agriculture sector in the Indian Economy?
(a) 53% (b) 25% (c) 17% (d) 33%
54. Which of the following sector has highest share in the total import of India during the period of April to Nov, 2017-18.
(a) chemical related product
(b) petroleum product
(c) gems and jewellery
(d) electronics goods.
55. Who is the chairman of planning commission ?
(a) President of India (b) Prime minister
(c) Vice president (d) Finance minister.
56. Who has the sole right to issue bank notes of all denominations?
(a) SBI (b) RBI
(c) Finance Ministry
(d) Planning Commission
57. How many languages are printed on Indian currency?
(a) 12 (b) 13 (c) 15 (d) 17
58. Which of the following controls the share market in India?
(a) BIFR (b) FERA
(c) SEBI (d) MRTP Act.
59. GST council is chaired by whom?
(a) President (b) Prime minister
(c) Finance Minister
(d) Union commerce minister
60. The Indian economy is characterized as a
(a) Socialistic form of economy
(b) Capitalistic pattern
(c) Mixed economy (d) None of the above
61. COKE & PEPSI are substitute to each other. With the increase in price of Pepsi the demand for coke will _____?
(a) Increase (b) Decrease
(c) Constant (d) None of the above.
62. Expenditure incurred in the process of production is called _____?
(a) Profit (b) Revenue
(c) Cost (d) None of the above.
63. Continuous increase in general price level and fall in value of money is a situation of :
(a) Deflation (b) Inflation
(c) Stagnation (d) None of the above
64. If the demand for a product increases over the supply of the product in the market the price of the product will:
(a) remain constant (b) decrease
(c) increase (d) none of the above.
65. KALIA yojana in Odisha associated with _____.
(a) industrial sector (b) service sector
(c) upliftment of BPL class people
(d) agriculture sector.

66. Which of the following state has launched the PEETHA scheme?
 (a) Andhra Pradesh (b) Karnataka
 (c) Odisha (d) West Bengal
67. Which country is not a member of SAARC?
 (a) Pakistan (b) Myanmar
 (c) India (d) Bangladesh
68. Which of the following is the objective of social forestry started by Govt of India?
 (a) To increase green coverage
 (b) To reduce urbanization in rural area
 (c) To create employment opportunity
 (d) To produce raw material for rayon and match factory.
69. An economy is at the take off stage on its path to development when it—
 (a) begins steady growth
 (b) becomes stagnant
 (c) is liberalized
 (d) Gets maximum foreign aid.
70. What is the rank of India production of egg in the world?
 (a) 1st (b) 2nd (c) 3rd (d) 4th
71. Which state is the largest producer of banana in India?
 (a) Maharastra (b) Kerala
 (c) Tamil Nadu (d) Andhra Pradesh
72. Median is the _____.
 (a) average of all the data in the series
 (b) the largest data in the series
 (c) data having highest frequency in the series
 (d) middle most data in the series
73. In a moderately symmetrical distribution mode can be calculated by using the formula _____.
 (a) 3 medians - 2 mean
 (b) 2 medians - 3 means
 (c) 3 medians + 2 means
 (d) 3 medians X 2 means.
74. On the basis of area, India ranks _____ largest country in the world.
 (a) 1st (b) 2nd (c) 5th (d) 7th
75. The headquarter of world bank is in
 (a) Wasington D C (b) New York
 (c) Chicago (d) Philadelphia.

MATHEMATICS

76. A, B & C rent a pasture. A puts 10 Oxen for 7 months, B puts 12 months for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs 175, how much C pays as his share of rent?
 (a) 45 (b) 50 (c) 55 (d) 60
77. If $4 \times A$'s capital = $6 \times B$'s capital = $10 \times C$'s capital. Then out of the profit of Rs 4650, C's share will be _____.
 (a) 700 (b) 800 (c) 900 (d) 1000
78. A merchant marks his goods 10% above the cost price. What is the maximum % discount that he can offer so that he ends up selling at no profit or loss?
 (a) 10% (b) 9.09% (c) 9.99% (d) 10.99%
79. By what percentage above the cost price. A merchant should mark his goods, so that after allowing a discount of 20% he will get a profit of 20%?
 (a) 40% (b) 30% (c) 20% (d) 50%
80. With the increase in rate of interest from 7% the borrower has to pay Rs 240 more in three years on his borrowings. Find out the amount of borrowings?
 (a) 7000 (b) 4000 (c) 5000 (d) 6000
81. A sum of money will be doubled in what time, when the interest is simple interest and rate of interest is 12% pa
 (a) 8 years
 (b) 8 years 3 months
 (c) 8 years 4 months
 (d) 8 years and 6 months.
82. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% p.a is Rs 1. The sum is
 (a) 625 (b) 630 (c) 640 (d) 650
83. If a & b are the roots of the equation $X^2 - 5x + 6 = 0$, then the value of $(a^2 + b^2)$ are
 (a) 6 (b) 13 (c) 24 (d) 36
84. A can do a work in 14 days and working together A & B can do the same work in 14 days, In what time B alone do the work?
 (a) 25days (b) 30 days
 (c) 23 days (d) 35 days.

85. Find the value of the following:

$$\frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \frac{1}{8 \times 9} + \frac{1}{9 \times 10} = \underline{\hspace{2cm}}$$

- (a) 2/5 (b) 5/2
(c) 1 (d) none of the above

86. What least number must be added to 1056, so that the sum is completely divisible by 23?

- (a) 2 (b) 3 (c) 18 (d) 21

87. What is the unit digit in

$$(6374)^{317} \times (625)^{491} \times (341)^{1793}$$

- (a) Cannot be determined
(b) 1 (c) 0 (d) 7

88. 25% profit on cost price = _____ profit on sell price.

- (a) 25% (b) 20% (c) 30%
(d) can not be calculated

89. If 20% of a = b then b% of 20 is the same as

- (a) 20% of a (b) 55 of a
(c) 4% of a (d) None of the above.

90. From the following data find the value of the mode.

X:12,8,4,8,1,8,9,10,12,8

- (a) 12 (b) 1 (c) 6.5 (d) 8

91. The following observations are arranged in ascending order. The median of the data is 25. Find the value of X.

17 X 24 X + 7 35 36 46

- (a) 29 (b) 18 (c) 35 (d) 14.5

92. The 11TH and 13TH terms of an AP are 35 and 41 respectively. Its common difference is

- (a) 6 (b) 3 (c) 38 (d) 32

93. The probability that a prime number selected at random from the number 1,2,3,4.....50 is

- (a) 1/2 (b) 0 (c) 1 (d) 3/10

94. What will be the value of $1175 \times 1175 - 25 \times 25$?

- (a) 1485000 (b) 1480000
(c) 1385000 (d) 1380000

95. What is the longest pole that can be put in a wooden box of dimensions of length-10cm, breadth- 10cm, height- 5 cm?

- (a) 10cm (b) 15cm (c) 50 cm (d) 500cm.

MENTAL ABILITY

96. Find out the missing number.

16, 19, 22, 25, _____.

- (a) 27 (b) 28 (c) 29 (d) 30

97. Find the missing letter.

B, E, H, _____.

- (a) I (b) J (c) K (d) L

98. Find the wrong term(s)

ABD, DGK, HMS, NTB, SBL, LKW.

- (a) ABC (b) XYZ (c) NTB (d) PRS

99. If in any code language, NATIONAL is written as MZGRLMZO; then how JAIPUR is written in the same language?

- (a) AXZNOT (b) QZRKFI
(c) NQRSTZ (d) BFJLQN

100. If RAT= 42 & CAT= 57, then LATE=?

- (a) 11 (b) 33 (c) 66 (d) 70

101. If ANCE is coded as 3,7,29,11 then BIOL will be coded as what?

- (a) 5,31,19,25 (b) 6,13,19,25
(c) 1,3,5,7 (d) 8,10,23,56

102. If air is called water, water is called green, green is called as dust, dust is called yellow & yellow is called cloud, which of the following does fish live in?

- (a) GREEN (b) WATER
(c) YELLOW (d) DUST

103. In certain code XZM means he is bright, TCZO means every law in green, OQC� means every wall was green, which of the following does means every lawn is bright in that code?

- (a) CANNOT BR DETERMINED
(b) ANMO (c) PQRS (d) TZRS

104. Arrange the alphabetical order & find which word comes in middle .

Select, seldom, selfish, seller, send, second, section.

- (a) SELECT (b) SELLER
(c) SECTION (d) SELDOM

105. How many even numbers are there in the above sequence which are immediately pceeded by an odd number & immediately followed by an even number?

5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5
2 2 4 3 4 9 6

- (a) 3 (b) 5 (c) 7 (d) 4

106. Get the rule a find the proper option for the blank cell.

4	9	20
8	5	14
10	3	?

- (a) 8 (b) 11 (c) 14 (d) 15

107. Rajesh is elder 3 days 10 hours from Vikas. The date of birth of Vikas is 21st November at 7 AM, then what will be the date of birth of Rajesh?

- (a) 16th November (b) 17th November
(c) 18th November (d) 19th November

108. Find the wrong term.

105, 85, 60, 30, 0, -45, -90.

- (a) 0 (b) 1 (c) -1 (d) 3

109. If in any code language, CLERK is coded as AHYJA. How JOB is coded in that language.

- (a) HKV (b) KVH (c) HKF (d) VHK

110. Arrange the given words in sequence in the way they occur in dictionary.

i. Precede, ii. precision, iii. precise, iv. precept, v. preach, vi. prelude.

- (a) 531426 (b) 514326
(c) 513426 (d) 514236

111. _____ is to Goat is milk is to child.

- (a) Fodder (b) Graze
(c) Shepherd (d) Grain

112. Get the rule and find the missing digit.

?	1	1
9	4	4
2	3	5

- (a) 8 (b) 10 (c) 14 (d) 16

113. First day of the month is Wednesday & last day of the same month is Tuesday then which one will be that month?

- (a) January (b) February
(c) March (d) August.

114. Pointing towards a man in the photograph, a lady said the father of his brother is the only son of my mother. How is the man related to the lady?

- (a) Brother (b) Son
(c) Cousin (d) Nephew.

115. Ravi travelled 4 km straight towards south. He turned left and travelled 6 km straight, then turned right and travelled 4 km straight. How far is he from the starting point?

- (a) 8km (b) 10km (c) 12km (d) 18km.

116. Soap is to Dirt as petrol is to _____.

- (a) Dry cleaner (b) Grease
(c) Car (d) Clothes.

117. Get the rule and find the missing digit.

8	10	9
?	15	28
7	12	13

- (a) 9 (b) 10 (c) 11 (d) 12

118. In the group of 26 girls Rekhas position is 7th from the bottom. What is the position of Rekha from the top of the group?

- (a) 20th (b) 21st (c) 22nd (d) 17th

119. Soni, who is Dubey's daughter, says to Preeti, yours mother Shyama is the Youngest sister of my father, Dubey's father third child is Prabhat. How is Prabhat related to Preeti?

- (a) Uncle (b) Father
(c) Grandmother (d) Father-in-law.

120. A man is facing North- West. He turns 90 degree in the clock wise direction and then another 180 degree in antilock wise direction and then 90 degree in the same direction. Which direction is he facing now?

- (a) South (b) South-West
(c) West (d) South-East.
