M.M. MEMORIAL PUBLIC SR. SEC. SCHOOL

GLOBAL TALENT SEARCH EXAMINATION # 5

GTSE # 5 (2024)

Pre Nurture & Career Foundation Courses

Time: 3 Hrs.   **Maximum Marks: 600**

Name of the Candidate ……….

Class :- 7th   Reg. No. : GTS/…………..………………..

Examination Centre: ………………………………………………………………………..…………………………………..

Instructions for the candidate :

Please read the following instructions carefully before opening the Question Booklet :

1. This Question Booklet consists of 150 questions. Subject wise Serial Order of the questions is as following :

Question No.		Subject
1 – 20	–	English
21 – 70	–	Mathematics
71 – 90	–	Physics
91 – 110	–	Chemistry
111 – 130	–	Biology
131 – 150	–	Mental Ability

2. Each multiple choice question has four options namely (A), (B), (C) and (D). Out of which only ONE option is correct (except MSQs). Each correct answer earns a credit of **4 marks**. A wrong answer carries a penalty of – 1 mark as negative marking.

3. **Use black or blue ball point pen only on OMR sheet**. Use of pencil is strictly prohibited.

4. Folding, damaging or leaving any identifiable mark on the OMR sheet is strictly prohibited.

5. No Candidate should possess any document other than Admit Card and Photo Identity Card.

6. Candidate may take Question Booklet with him/her only after handling over OMR sheet to invigilating staff.

7. Rough work should be done on the blank space provided on each page of the booklet.

8. For the given 4 alternative, choose only one alternative (expect MSQ's) and dark the selected circle properly as

Ⓐ ⬤B Ⓒ Ⓓ

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ENGLISH

Question No.1 to 4 are of Assertion and Reason type questions. Each question consists of two statements namely; Assertion (A) and Reason (R) :

1. Assertion (A) : Sentence is also known as clause.
Reason (R) : Because it consists a subject and a finite verb.
(A) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
(C) Assertion (A) is true and Reason (R) is false.
(D) Assertion (A) is false and Reason (R) is true.

2. Assertion (A) : Modals show mood of the speaker.
Reason (R) : Only single type of modal can express a particular feeling .
(A) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
(C) Assertion (A) is true and Reason (R) is false.
(D) Assertion (A) is false and Reason (R) is true.

3. Assertion (A) : "The girl is sleeping." The sentence is in present tense .
Reason (R) : Present tense is used to indicate an action that took place in the past.
(A) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
(C) Assertion (A) is true and Reason (R) is false.
(D) Assertion (A) is false and Reason (R) is true.

4. Assertion (A) : The subject is what the sentence is about.
Reason (R) : The predicate explains what the subject is doing.
(A) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
(C) Assertion (A) is true and Reason (R) is false.
(D) Assertion (A) is false and Reason (R) is true.

Q.5 to 8 are Comprehension Type Questions
Read the passage given below and answer the questions that follow :

The city police has decided to (5)_____ strict action against drivers who attempt to overtake (6) _____ the left on city roads. All drivers **who violate** this rule will be punished.

5. (A) taken (B) taking
   (C) took (D) None of these

6. (A) of (B) in
   (C) from (D) Both (B) and (C)

7. The word 'Who' in the passage is _____ pronoun.
   (A) interrogative (B) relative
   (C) possessive (D) reflexive

8. Choose the correct synonymous of the word 'Violate':
   (A) Offend (B) Regard
   (C) Obey (D) All of these

Q.9 to 16 are SCQ's (Single Choice Questions):

9. Mustaq likes _____ furniture. Fill the blank with the **correct order of adjectives**:
   (A) Italian, black, leather
   (B) leather, Italian, black
   (C) black, Italian, leather
   (D) Italian, leather, black

10. Rahul was _____ very tall man with _____ dark hair.
   (A) a/the (B) a/- (C) the/the (D) -/-

*************************************ROUGH WORK*************************************

11. Children are very fond _____ swimming.

   (A) of   (B) about   (C) till   (D) at

12. Choose the **proper sequence**;

   The main purpose _____ .

   (P) how much

   (Q) is to find out

   (R) of the this test

   (S) of English they know

   (A) PRSQ   (B) QPRS   (C) QRSP   (D) RQPS

13. _____ you like me to get you some water ?

   (A) will   (B) can   (C) could   (D) would

14. _____ your father _____English ?

   (A) Do / speak   (B) is / spoken

   (C) Does / speak   (D) Do / speaking

15. Find the **correctly spelt word :**

   (A) Quaralling   (B) Symptom

   (C) Raferee   (D) Passanger

16. I will give you a pen _____ you pass the test .

   (A) if   (B) then

   (C) than   (D) although

Q.17 to 20 are MSQs (Multiple Selection Questions) :

17. She watched _____ crossing the street.

   (A) he   (B) him   (C) them   (D) himself

18. The verb 'Held' is _____ .

   (A) Past Participle   (B) Regular Verb

   (C) Past form   (D) All of these

19. When did he come here?

   After reading the above sentence find the correct pairs:

   (A) When – Pronoun   (B) Come – Verb

   (C) Here – Adverb   (D) All of these

20. Select the correctly punctuated sentence/s from the options given below :

   (A) Rani; Please answer the phone.

   (B) Will you do me a favour?

   (C) How beautiful the sky is!

   (D) My aunt, who lives in Mumbai, is a doctor.

MATHEMATICS

Assertion/Reason Questions

Directions : In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following :

21. Assertion (A) : The area of a rectangle whose length and breadth are 3y and $9y^2$ respectively is $27y^3$.

   Reason (R) : Area of rectangle = length x breadth

   (A) Both assertion and reason is correct and reason is the correct explanation form assertion.

   (B) Both assertion and reason are correct but reason is correct explanation for assertion.

   (C) Assertion is correct but reason is false.

   (D) Both assertion and reason is false.

22. Assertion (A) : Hari a bought a pen for Rs. 125 and sold it for Rs. 120 the loss is Rs. 5.

   Reason (R) : Loss=Cost price-selling price.

   (A) Both assertion and reason is correct and reason is the correct explanation form assertion.

   (B) Both assertion and reason are correct but reason is correct explanation for assertion.

   (C) Assertion is correct but reason is false.

   (D) Both assertion and reason is false.

23. Assertion (A) : Ratio can be defined as the relationship or comparison between two numbers of the same unit to check how bigger is one number than the other one.

   Reason (R) : The ratio of 10 km to 15 km is 2 : 3.

   (A) Both assertion and reason is correct and reason is the correct explanation form assertion.

   (B) Both assertion and reason are correct but reason is correct explanation for assertion.

   (C) Assertion is correct but reason is false.

   (D) Both assertion and reason is false.

*************************************ROUGH WORK*************************************

24. Assertion (A) : Two adjacent angle always formed a linear pair.

Reason (R) : All linear pairs of angles are adjacent angles and all adjacent angles are linear pairs.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

25. Assertion (A) : If a transversal intersects two parallel lines then the interior angles on the same side of the transversal are supplementary angles.

Reason (R) : The sum measure of two supplementary angles is 180°.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

26. Assertion (A) : If the inclination between the arms is less than a right angle, it is called an acute angle.

Reason (R) : 134° is type of acute angle.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

27. Assertion (A) : Sum of two obtuse angles will be more than 180°.

Reason (R) : Angle is greater than 0° and less than 90° is known as obtuse angle.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

28. Assertion (A) : Supplement of angle is one fourth of itself. The measure of the angle is 144°

Reason (R) : Two angles are said to be supplementary if their sum of measure of angles is 180°

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

29. Assertion (A) : $15 \times (-7) = 135$

Reason (R) : One positive and one negative integer multiply then give positive value.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

30. Assertion (A) : 1760 cm is the circumference of circle whose radius is 2.8m.

Reason (R) : Circumference of a circle of radius r is $2\pi r$.

(A) Both assertion and reason is correct and reason is the correct explanation form assertion.

(B) Both assertion and reason are correct but reason is correct explanation for assertion.

(C) Assertion is correct but reason is false.

(D) Both assertion and reason is false.

Comprehensive Type Questions

Direction:- If $A = a^2 + b^2$, $B = a^2 - b^2$ then

31. The value of A, when a =2, b =3 is

(A) 7　　　　　　　　　(B) 13

(C) 11　　　　　　　　 (D) 25

32. The value of B when a = 2, b = 3 is

(A) 7　　　　　　　　　(B) 19

(C) -5　　　　　　　　(D) 1

33. The value of A×B, when a =2 , b =3 is

(A) 56　　　(B) 18　　　(C)-65　　　(D) 12

Direction:- $A = 7x^2 - 4x + 5, B = -3x^2 + 2x - 1,$
$C = 5x^2 - x + 9$

34. The value of A+B is

(A) $4x^2 - 2x + 4$ (B) $4x^2 + 2x - 4$

(C) $4x^2 - 2x - 4$ (D) $4x^2 + 2x + 4$

35. The value of B+C is:-

(A) $2x^2 - x - 8$ (B) $2x^2 + x + 8$

(C) $2x^2 - x + 8$ (D) $2x^2 + x - 8$

Single choice Questions (SCQs)

36. The integer which is 2 more than $(-7 + (-2))$ is :-

(A) -7 (B) -9 (C) 11   (D) -3

37. Neeta's volvo bus takes 50 boys to a field trip some of them takes ₹ 20 ticket while the rest takes ₹ 45 tickets. If the total cost of ticket purchased is ₹ 2000, how many boys took the ticket of ₹ 20 each?

(A) 7   (B) 10   (C) 12   (D) 15

38. Product of two integer is -48. If one of the integer is -6, then the other is:-

(A) -1 (B) 1   (C) 0   (D) 8

39. $\frac{1}{9}$ of $\frac{1}{6}$ of $\frac{1}{3}$ of 56052 is

(A) 336   (B) 236   (C) 346   (D) 0

40. Sally has three pieces of material. The first piece is 1yd 2ft 6inches, long, the second piece is 2yd. 1ft. 5inches long, and the third piece is 4yd 2ft 8inches long. How much material does sally have?

(A) 7yd 1ft 8inches   (B) 10yd

(C) 9yd 7inches   (D) 8yd 11inches

41. If 20 = 6 + $2x$, then the value of is :-

(A) 6   (B) 9   (C) 8   (D) 7

42. $x = 5,\ y = 2$ is solution of linear equation:

(A) $x + 2y = 7$ (B) $x + y = 7$

(C) $5x + 2y = 7$ (D) $5x + y = 7$

43. If 2x = 3y and 4y = 5z than x : z.

(A) 4 : 3   (B) 8 : 15

(C) 3 : 4   (D) 15 : 8

44. The addition of two numbers is -120. If one number is four times the another number. Find the greater number.

(A) -24   (B) 96   (C) 24   (D) -96

45. In ΔABC, If BC= AB and $\angle B = 80°$ then $\angle A$ is equal to:-

(A) 80°   (B) 40°   (C) 50°   (D) 100°

46. Simplify :

$4 + \frac{1}{5}[\{-10 \times \{25 - \overline{13 - 3}\} \div (-5)\}]$

(A) -10   (B) 10   (C) 0   (D) 1

47. Which of the following are rational numbers

(A) 1   (B) -1

(C) $3\frac{1}{2}$ (D) All of these

48. If $a^2 - b^2$ = 36 and a + b = 4 then $(a - b)^2$

(A) 81   (B) 36   (C) 9   (D) 144

49. The area of square plot is $1600 m^2$. The side of the plot in:-

(A) 40m   (B) 80m

(C) 120m   (D) 160m

50. The area of the parallelogram ABCD in which AB = 6.2cm and the perpendicular from C on AB is 5cm is

(A) $30 cm^2$ (B) $29 cm^2$

(C) $28 cm^2$ (D) $31 cm^2$

51. If the area of Rectangle in $3200 cm^2$ and breadth 40cm. teen perimeter of rectangle is :-

(A) 320cm   (B) 400cm

(C) 240cm   (D) 100
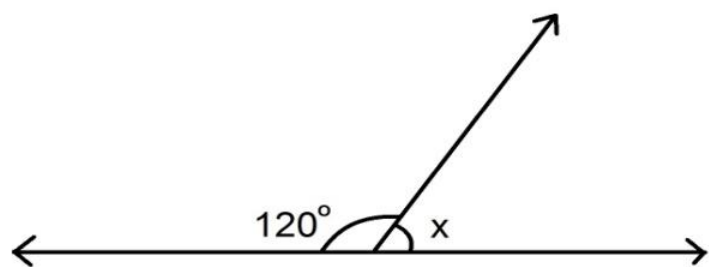
52. Find fourth proportion ?

7, 8, 14, ...

(A) 12   (B) 14

(C) 16   (D) 4

53. The angles is Linear pair are:-

(A) Vertically opposite   (B) complementary

(C) equal   (D) supplementary

************************************ROUGH WORK************************************

54. Find x

(A) 60° (B) 30°
(C) 80° (D) 120°

55. A batsman scored the following number of runs in six innings:-

35,30,45,65,39,20. The means runs scored by him are:-

(A) 39 (B) 38 (c) 32 (D) 40

56. The difference between the successor and predecessor of a number is

(A) 1 (B) -1 (C) 2 (D) -2

57. What is perimeter of rectangle of length $\frac{3}{4}$ m and breadth $\frac{1}{4}$ m.

(A) 2 m (B) 1 m (C) $\frac{3}{8}$ m (D) 4 m

58. The Zero of the polynomial $2x$-3 is

(A) 0 (B) $\frac{2}{3}$ (C) $\frac{3}{2}$ (D) 3

59. The Literal factor of 281 p^2qr is

(A) 281 (B) q,r (C) p,q,r (D) p,r

60. If $\frac{3^{x+1}}{3^{2x-2}} = 9^{-2}$, then x is

(A) 3 (B) 7 (C) -1 (D) 1

Multiple Selection Questions

61. Which of the following is True?

(A) $\frac{-4}{-5} + 0 = \frac{4}{5}$

(B) $-3 + 10 = -10 + 3$

(C) $\frac{8}{9} - \frac{7}{11} = \frac{7}{11} - \frac{8}{9}$

(D) $\left(\frac{-5}{6}\right) + \left(\frac{-7}{12}\right) = \frac{-7}{12} + \left(\frac{-5}{6}\right)$

62. Pick out the fraction which can be written and mixed fraction

(A) $\frac{4}{7}$ (B) $\frac{11}{7}$ (C) $\frac{9}{5}$ (D) $\frac{2}{9}$

63. $x = 15, \quad y = 12$ is solution of linear equation:-

(A) $3x - 2y = 21$ (B) $2x + 3y = 66$
(C) $12x + 4y = 70$ (D) $x + y = 27$

64. If the mean of observation x, $x + 2$, $x + 4$, $x + 6$ and $x + 8$ is 11 then the value of x:-

(A) 6 (B) $7x1^3$ (C) $\frac{7^{21}}{7^{20}}$ (D) 7^0

65. Which of the following are rational number:-

(A) 1 (B) $\sqrt{2}$ (C) $\sqrt{4}$ (D) 2π

66. $54\,x^9 \div 6x^7 =$

(A) 3^2x^2 (B) $(3x)^2$ (C) $3x^2$ (D) 3^2x

67. $\left(\frac{1}{3^4}\right)^2 \div \left(\frac{1}{3^2}\right)^3$

(A) 9 (B) $\frac{1}{9}$ (C) $\frac{1}{3^{-2}}$ (D) 3^{-2}

68. $\left(\frac{3}{4}a^2 + 3b^2\right) \times 4\left(a^2 - \frac{2}{3}b^2\right) =$

(A) $3a^4 - 10a^2b^2 - 8b^4$

(B) $a^2(3a^2 + 10b^2) - 8b^4$

(C) $3a^4 + 10a^2b^2 - 8b^4$

(D) $a^2(3a^2 - 10b^2) - 8b^4$

69. The product of $(2x + 8)(x - 3)$ is

(A) $2x^2 + 2x - 24$ (B) $2x^2 + 2x + 24$
(C) $2(x^2 + x - 12)$ (D) $2(x^2 + x + 12)$

70. Which of the following is/are Polynomials

(A) $x + \frac{1}{x^{-1}}$ (B) $x^2 + 2x + 1$

(C) $x - \frac{1}{x}$ (D) $x^2 + \frac{1}{x} + 2$

PHYSICS

Assertion/Reason questions

Directions:- The questions from 71 to 74 below consist of an assertion and a Reason. Use the following key to choose the appropriate answer.

(A) Both A and R are True and R is the correct explanation of A.

(B) Both A & R are true but R is not the correct explanation of A

(C) A is true but R is false

(D) A is false but R is true

***********************************ROUGH WORK***********************************

71. Assertion (A): Rainbow is an example of the dispersion of sunlight by the water droplets.
Reason (R): Light of shorter wavelength is scattered much more than light of larger wavelength.

72. Assertion (A): The time taken by a pendulum to complete one oscillation is called its time period.
Reason (R): A slight change in displacement does not affect the time period of a pendulum.

73. Assertion (A): The aluminium, iron and copper are bad conductor of heat.
Reason (R): The material through which heat is passed known as good conductors of heat.

74. Assertion (A): Telephone wires sag more in summer.
Reason(R): They expand due to summer heat.

Comprehension Type Questions

Direction :- The questions from 75 to 78 have to be answered from the following paragraph.

Lenses are transparent and light can pass through them. Lenses are classified as convex lens and concave lens and we can distinguish between these two types of lenses by just touching them. Lenses are widely used in various appliances that we come across in our daily life.

75. The lenses used in spectacles of a person are found to the thick in the middle but thinner at the edges. The lens used are
(A) Convex   (B) Concave
(C) Plane   (D) None of these

76. The image formed by a lens is always erect, virtual and smaller in size than the object. The lens is –
(A) Convex   (B) Concave
(C) Plane   (D) None of these

77. The image formed by magnifying glass is –
(A) real   (B) Virtual
(C) either real or virtual   (D) none of these

78. Concave lens is also known as:-
(A) Converging lens   (B) Diverging lens
(C) Bifocal length   (D) Biconcave lens

Single choice questions (Q.79 to Q.86)

79. What is the range of the temperature reading of a laboratory thermometer?
(A) $-10°C$ to $110°C$ (B) $35°C$ to $42°C$
(C) $0°C$ to $100°C$ (D) $-10°C$ to $100°C$

80. A bus travels 54 km in 90 minutes. The speed of the bus is
(A) 0.6 m/s   (B) 10 m/s
(C) 5.4 m/s   (D) 3.6 m/s

81. Which of the following is being used in place of fuses?
(A) MCB   (B) Nichrome
(C) Filament   (D) Switch

82. Woolen sweater keep us warm by
(A) Keeping the atmosphere warm
(B) Trapping a layer of air between our body and sweater
(C) Trapping a layer of dust particles
(D) Increasing the loss of heat from our body

83. A force of 25 N is exerted on a surface with an area of 0.1 m^2. What is the pressure exerted on the surface?
(A) 0.04 Pa   (B) 2.5 Pa
(C) 25 Pa   (D) 250 Pa

84. Match Column – I with column – II and select the correct answer using the code given below the columns.

Column I	Column II
(A) Plane Mirror	(p) Forms real image when object is placed before focus.
(B) Convex Mirror	(q) Forms image of the same size
(C) Concave Mirror	(r) Always form virtual image
(D) Concave Lens	(s) Always forms image virtual, erect & small

(A) A→ (p), B →(q), C → (r), D →(s)
(B) A →(q), B → (r), C → (s), D → (p)
(C) A → (q), B → (r), C → (p), D →(s)
(D) A → (p), B →(s), C → (q), D →(r)

*************************************ROUGH WORK*************************************

85. An iron ball at 40°C is dropped in a mug containing water at 40°C The heat will
(A) flow from iron ball to water
(B) flow from water to iron ball
(C) increase two temperature of both
(D) not flow from iron ball to water or from water to iron ball

86. If the speed of an object along a straight line keeps changing its motion is said to be
(A) uniform motion
(B) non – uniform motion
(C) linear
(D) none of these

Multiple Selection Questions. (Q.87 to Q.90)

87. Which of the following is correct about cyclone?
(A) A cyclone is created by a very high pressure system
(B) A cyclone is created by a very low pressure system
(C) The eye of a cyclone is a calm area.
(D) None of the above

88. An electric bell has :-
(A) An electromagnet   (B) A hammer
(C) Art armature   (D) Glass tube

89. Which of these is measured in meters ?
(A) Focal length
(B) Radius of curvature
(C) Angle of incidence
(D) Electric current.

90. Choose the correct statement :-
(A) Boiling of a given substance takes place at all temperatures
(B) Evaporation of a substance takes place at a constant temperature
(C) Boiling takes place at every part of the liquid
(D) Evaporation takes place only on the surface of liquid.

CHEMISTRY

Assertion/Reason questions

Directions:- The questions from 91 to 94 below consist of an assertion and a Reason. Use the following key to choose the appropriate answer.
(A) Both A and R are True and R is the correct explanation of A.
(B) Both A & R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

91. Assertion (A): - The range of an acid 0 – 0.6 and base 7.1 to 14.
Reason (R) :- The range of acid and base are determined by Ph.

92. Assertion (A):- 23 March is celebrated as world water day.
Reason (R):- It is celebrated every year to attract the attention of everybody towards the importance of conserving water.

93. Assertion (A): Sugar is a neutral substance.
Reason (R):- A sugar solution turn red litmus blue

94. Assertion (A): - Onion is an example of an olfactory indicator
Reason (R):- Litmus is a natural dye and extracted from lichens

Comprehension Type Questions

Direction :- The questions from 95 to 98 have to be answered from the following paragraph.

Aman and Aakash working on a project report on 'occupational Hazards'. They went to cotton and wool spinning mills and mulberry farm for their research. They observed that due to improper working environment and lack of safety measures there were many health hazards faced by the workers in their routine activities like respiratory disease, skin infections etc.

*************************************ROUGH WORK*************************************

They discussed the problems faced by the workers with their teacher. There teacher decided to write a letter to the concerned authority to highlight the seriousness of the issue and to take proper steps/action on this regard.

95. Which of the following disease is related to wool industry?
  (A) Sorter's disease   (B) Anthrax
  (C) Rinder Pest   (D) Both (A) and (B)

96. Which one the following causes the sorter's disease?
  (A) Streptococus pneumonia
  (B) Salmonella typhi
  (C) Bacillus anthracis
  (D) Escherichia coli

97. Which of the following is the reason of health problem that is associated with sericulture?
  (A) Reeling
  (B) Boiling cocoons
  (C) Decaying of dead worms
  (D) Both (B) and (C)

98. Which bacterium causes a fatal blood disease?
  (A) Rhizobium
  (B) Anthrax
  (C) Both rhizobium and anthrax
  (D) None of these

Single Choice questions (Q.99 to Q106)

99. The correct way of making a solution of acid in water is to
  (A) add water to acid
  (B) add acid to water
  (C) mix acid and water simultaneously
  (D) add water to acid in a shallow container

100. When the soil is too basic plants do not grow well in it. To improve its quality what must be added to the soil.
  (A) Organic matter   (B) Lime
  (C) Slaked lime   (D) Calamine solution

101. Why is zinc better than tin if we want to protect a piece of iron from rusting by electroplating.
  (A) Zinc is cheaper than tin
  (B) Tin is toxic
  (C) Rusting is prevented even when the zinc layer is broken
  (D) None of these

102. Which one of the following processes will produce hard water
  (A) Saturation of water with $CaCO_3$
  (B) Addition of Na_2SO_4 to water
  (C) Saturation of water with $MgCO_3$
  (D) Saturation of water with $CaSO_4$

103. Burning of magnesium in the air forms
  (A) Magnesium carbonate
  (B) Magnesium sulphate
  (C) Magnesium oxide
  (D) None of these

104. The general assembly of the united Nations proclaimed _____ period as the international decade for action on "Water for life".
  (A) 2005 to 2015   (B) 2015 to 2025
  (C) 2004 to 2014   (D) None of the above

105. Which of the following will be observed if an apple slice is left exposed to air?
  (A) It undergoes oxidation and became brown in colour
  (B) Appearance of brown colour on the surface of apple slice is caused by a chemical reaction between air and enzymes.
  (C) Both the above are correct
  (D) None of these

106. Match the entries given in Column A with the appropriate ones in Column B.

Column A	Column B
a. Caustic soda	(1) $NaHCO_3$
b. Slaked lime	(2) CaO
c. Baking soda	(3) $NaOH$
d. Quick lime	(4) $Ca(OH)_2$

ROUGH WORK

(A) a – 4, b – 2, c – 1, d – 3
(B) a – 2, b – 4, c – 3, d – 1
(C) a – 3, b – 4, c – 1, d – 2
(D) a – 1, b – 3, c – 2, d – 4

Multiple Selection Questions (Q.107 to Q.110)

107. The shipping industry has to bear huge financial loss because of rusting of ship. The rusting of ships occur because
  (A) The body of ship is always in contact with water
  (B) The air around the ship is humid
  (C) Presence of salts in sea water speed up the process of rusting
  (D) None of these

108. Which of the following sets represent only correct statements
  (A) Gypsum on heating can give plaster of paris
  (B) Gaseous HCl is anhydrous
  (C) Pure table salt is highly hydrated
  (D) In dehydration new substances are also formed

109. Which of the following helps to reduce water pollution?
  (A) Sewers for removal of urban waste
  (B) Use of unleaded petrol in cars
  (C) Less use of pesticides
  (D) We should not excrete in open

110. Pick out physical changes from the following:-
  (A) Rusting of Iron
  (B) Dissolving salt in water
  (C) Change of water to ice
  (D) Cooking of food

BIOLOGY

Assertion/Reason questions

Directions:- The questions from 111 to 114 below consist of an assertion and a Reason. Use the following key to choose the appropriate answer.
(A) Both A and R are True and R is the correct explanation of A.
(B) Both A & R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

111. Assertion(A):- Digestion in amoeba is intracellular
Reason (R):- In the food vacuole the food becomes trapped and is digested by the action of digestive juices secreted into food vacuole.

112. Assertion (A):- There are two types of cells which are the RBC and WBC.
Reason:- In the food vacuole, the food becomes trapped and is digested by the action of digestive juices secreted into food vacuole.

113. Assertion (A) – The main organ of the human excretory system is kidney.
Reason (R) – RBC contain a red pigment haemoglobin and WBC fight against germs which enter our body.

114. Assertion (A) – Translocation of solutes occurs through phloem.
Reason (R) – Solutes can move in both upward and downward direction.

Comprehension type questions (Q.115 to Q.118)

Direction : The questions from 115 to 118 have to be answered from the following paragraph.

*********************************ROUGH WORK*********************************

The stomach is a thick –walled bag. Its shape is like a flattened H and it is the widest part of the alimentary canal. It receives food from the food pipe at one end and opens into the small intestine at the other. The inner lining of the stomach secretes mucous, hydrochloric acid and digestive juices. The mucous protects the lining of the stomach.

The acid kills many bacteria that enter along with the food and makes the medium in the stomach acidic and helps the digestive juices to act. The digestive juices breakdown the proteins into simpler substances.

115. The stomach is a_____ bag.
   (A) Thin walled   (B) Thick walled
   (C) Round   (D) J shaped

116. The _____ protects the lining of the stomach.
   (A) Fluid   (B) Membrane
   (C) Mucous   (D) None of the above

117. Which is the widest part of alimentary canal of the human digestive system that is used for churning of food in the body?
   (A) Liver   (B) Intensive
   (C) Stomach   (D) Food pipe

118. The swallowed food moves downwards in the alimentary canal because of:-
   (A) Force provided by the muscular tongue.
   (B) The flow of water taken with the food.
   (C) Gravitational pull
   (D) The contraction of muscles in the walls of food pipe

Single choice questions (Q.119 to Q.126)

119. The largest gland in the human body is :-
   (A) Oesophagus   (B) Salivary gland
   (C) Liver   (D) Villi

120. Roof of the forest made by the branches of the tall trees is called
   (A) canopy   (B) crown
   (C) understoreys   (D) none

121. Saliva contains an enzyme called _____
   (A) Trypsin   (B) Pepsin
   (C) Amylase   (D) None of these

122. In a map, polar regions are marked by
   (A) Blue lines   (B) Red lines
   (C) Green lines   (D) Yellow lines

123. A thick layer of fat that keeps whales and other large swimming mammal warm in the cold water is –
   (A) Bubble   (B) Fur
   (C) Blubber   (D) Sticky pads

124. Which of the following organ does not secrete digestive juices
   (A) Stomach   (B) Small intestine
   (C) Liver   (D) Gullet

125. Diarrhoea is caused due to :-
   (A) Infection   (B) Indigestion
   (C) Poisoning   (D) All of the above

126. Rainfall is measured by
   (A) rain gauge
   (B) water level increase in ponds
   (C) water level increase in water table
   (D) none of these

Multiple Selection Questions (Q.127 to Q.130)

127. Identify the conditions from the above list that are responsible for the presence of large number of plants and animals in tropical rain forests.
   (A) Hot and humid climate
   (B) Unequal lengths of day and night
   (C) Abundant rain fall
   (D) Abundant light and moisture

128. Which of them are the adaptive features of a polar bear ?
   (A) Layer of fat under the skin
   (B) Long, curved and sharp claws
   (C) Slippery body
   (D) Thick white fur

**************************************ROUGH WORK**************************************

129. Which of the above will give blue - black colour when tested with iodine ?
(A) Boiled and mashed potato
(B) Glucose solution
(C) A slice of bread
(D) Mustard oil

130. In which of the following parts of human body are sweat glands present?
(A) Scalp   (B) armpit
(C) lips   (D) palms

MENTAL ABILITY

131. In each of the following question, one term in the number series is wrong. Find out the wrong term.

125, 126, 124, 127, 123, 130

(A) 124   (B) 127
(C) 123   (D) 130

132. Find out the missing character.

A	D	H
F	I	M
?	N	R

(A) K   (B) N   (C) O   (D) P

133. There is a certain relationship between the pair of figure on the either side of : : . Identify the relationship and finding the missing figure.
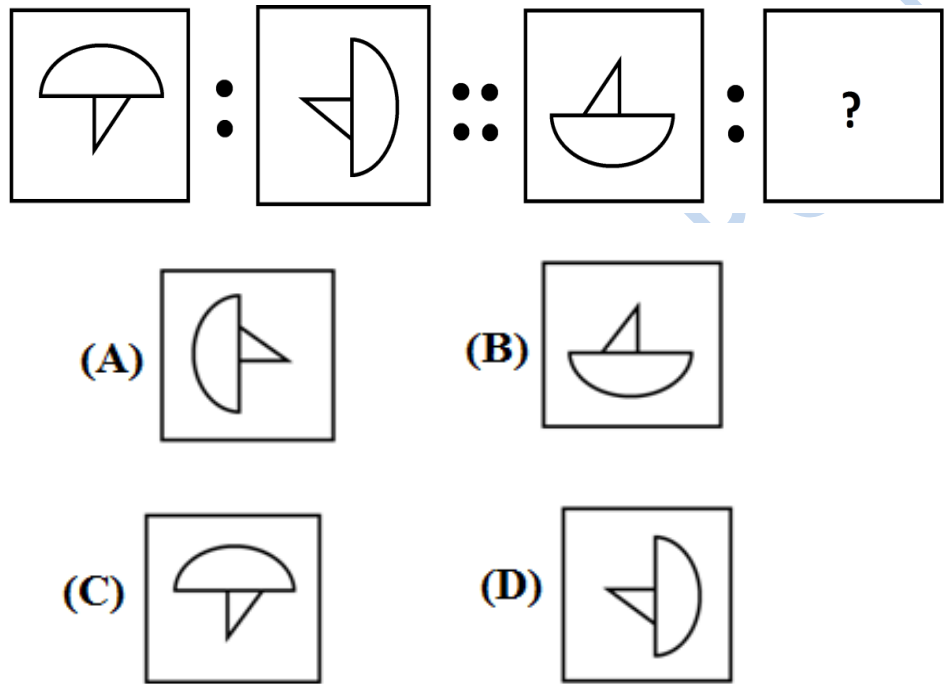

134. ACFJ is related to ZXUQ un the same way EGIB is related to _____.
(A) VTRY   (B) WQYR
(C) UTRX   (D) XPQY

135. If the code for 'JOT' is , 'OTY', then what is the code for 'HIS'?
(A) PQZ   (B) LMY
(C) ZQP   (D) MNX

136. If 'ROSE' is coded as '6821', 'CHAIR' is coded as '73456' and 'PREACH' is coded as '961473', what will be the code for SEARCH?
(A) 246173   (B) 214763
(C) 214673   (D) 216473

137. A is son of B. C is wife of A. D is daughter of C. What is D of B?
(A) Son   (B) Daughter
(C) Granddaughter   (D) Grandson

138. You go towards North, turn right, then right again and then go to the left. In which direction are you facing now?
(A) North   (B) South
(C) East   (D) West

139. Which of the following diagrams indicates the best relation amongst the following ?

Parents, Mother and Father

***************************************ROUGH WORK***************************************
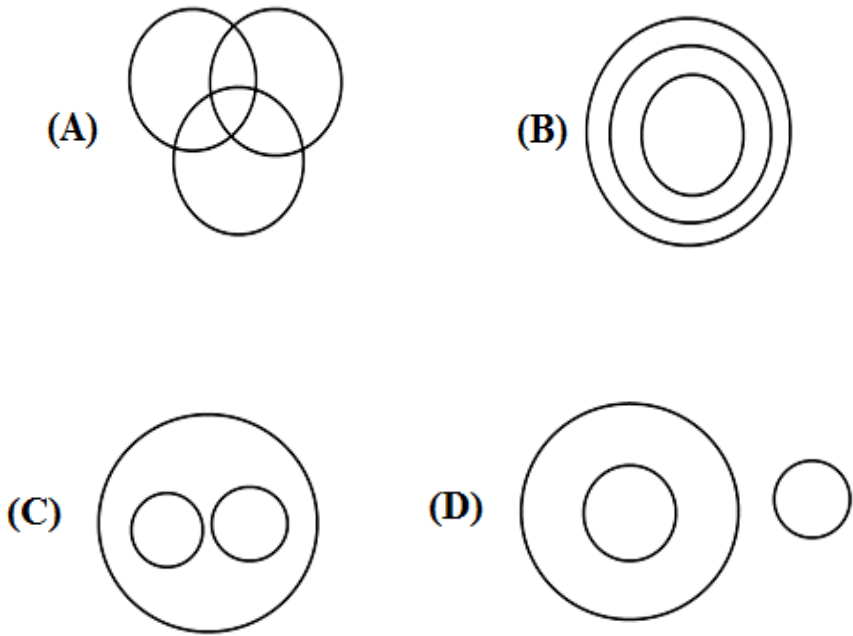
Direction (Q.140 & Q.141) : Study the Venn diagram and answer the following questions.
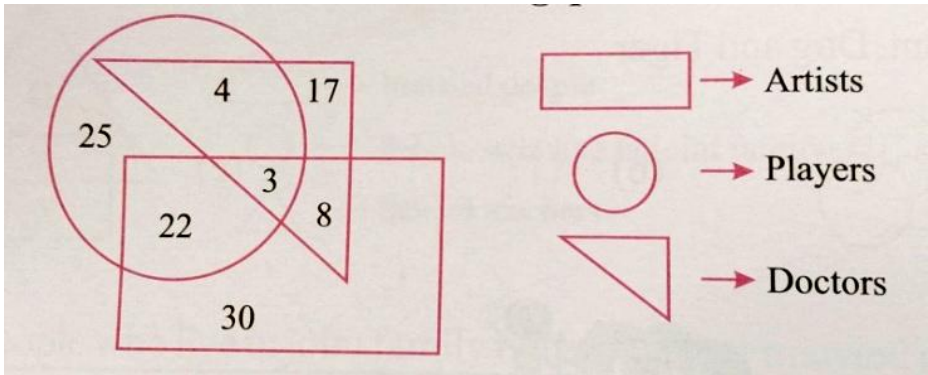
**140.** How many doctors are neither artists nor player?
  (A) 17   (B) 5
  (C) 10   (D) 30

141. How many artists are players but not doctors?
  (A) 5   (B) 22
  (C) 25   (D) 16

142. How many even digits are there in the series which are followed by an odd digit and preceded by an even digit?

       1 4 5 7 2 5 8 4 9 6 8 2 5 4 1 3 2 7 1
  (A) 1   (B) 2
  (C) 3   (D) 5

143. Arrange the given words in a meaningful sequence. In each of the following questions
  1. Poverty   2. Population   3. Death
  4. Unemployment   5. Lack of food
  (A) 2, 3, 4, 5, 1   (B) 3, 4, 2, 5, 1
  (C) 4, 1, 2, 5, 3   (D) 2, 4, 1, 5, 3

144. If A stand for 'plus', B stands for 'minus', C stands for 'multiplied by' and D stands for divided by' then 18 C 14 A 6 B 16 D4 is _____.
  (A) 254   (B) 256
  (C) 288   (D) 1201

145. How many squares are there in the given figure?
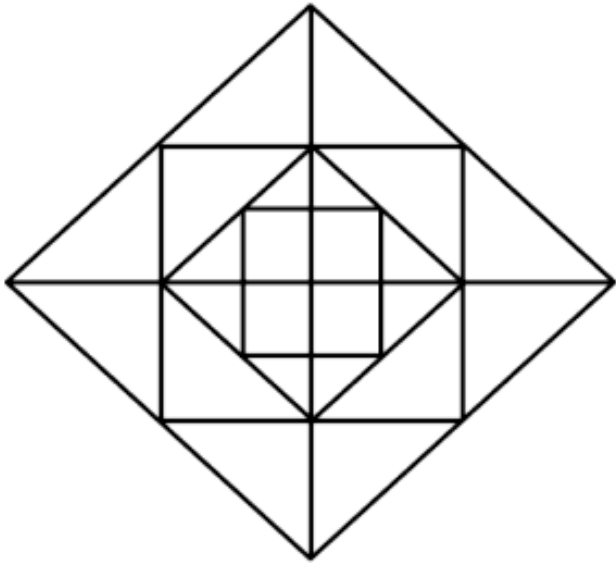
  (A) 12   (B) 13
  (C) 14   (D) 15

146. What is the minimum number of straight lines in the given figure?
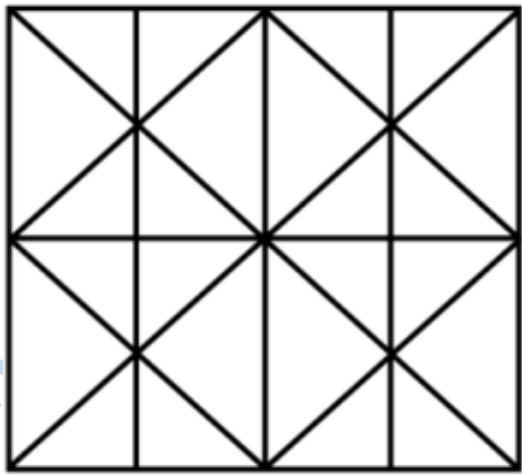
  (A) 11   (B) 14
  (C) 16   (D) 17

147. Select its correct water image out of the given options.

       NUCLEAR

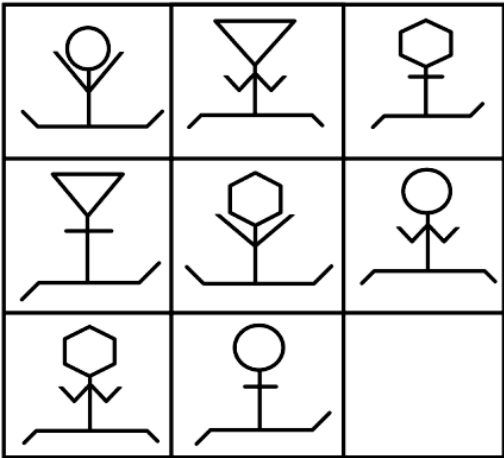 (A) ЯAEJCUИ   (B) ИUCJEAЯ

  (C) ИUCJEAЯ   (D) ИUCJEAЯ

*************************************ROUGH WORK*************************************

148. **Direction** : Select a figure from the options which fits exactly into Fig. (X) to form a complete square.
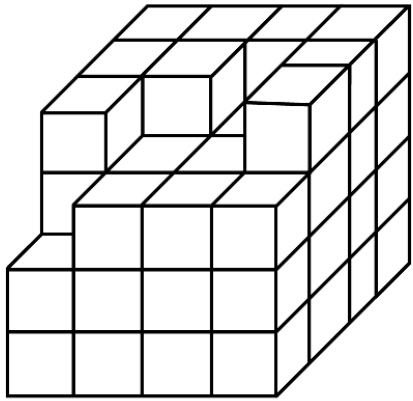

Fig (x)
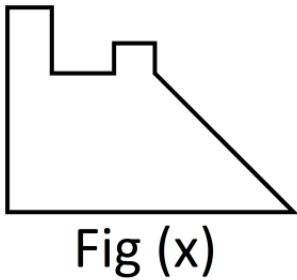
(A)

(B)

(C)

(D)

149. Find out which of the options completes the figure matrix.

(A)

(B)

(C)

(D)

150. Count the number of cubes in the given figure.

(A) 58   (B) 55

(C) 53   (D) 56

*************************************ROUGH WORK*************************************