PREVIOUS YEAR QUESTION PAPER

SCIENCEBEAM EXAM – JANUARY 2017

VI STD.

SECTION – A

MATHEMATICS

1. Jolly wrote this calculation 139 X 6 - 134. Which of these will give the same answer?
   a) 139X7-5 b) 139X5+5 c)140X5+5 d)140X6-140
2. In Mrs. Smitha's class, there are 10 boys and 11 girls. Each student brought 2 strawberries and 12 blueberries to the picnic. How many berries did the students bring altogether?
   a) 35 b) 152 c) 294 d) 300
3. The number 12 is divisible by 3 because 12 can be divided by 3 with no remainder. A prime number is a number greater than 1 that is only divisible by 1 and itself. The first four prime number are 2,3,5 and 7. How many prime numbers are there between 20 and 40?
   a) 4 b) 5 c) 6 d) 8
4. In a theatre, Indra is sitting in the 9th row from the front. This row is also called the 15th row from the back. What is the total number of rows.
   a) 6 b) 23 c) 24 d)25
5. If 12 X 3 then the value of X is
   a) 1\4 b) 1\3 c) 4 d) 36
6. The mass of a basket of vegetables is 19000 grams, corrected to the nearest thousand grams. What could be the greatest mass of the baskets of vegetables?
   a) 18500g b) 18499gm c) 19499g d)19500g
7. The two sides of a triangle measure 4cm and 7cm. Which of the following cannot be the measure of its third side?
   a) l3cm b)3cm c) 6cm d)5cm
8. Which of the following numbers are the PRIME FACTORS of 130?
   a) 5 and 26 b) 3 and 13 c) 13 and 10 d) 2,5 and 13
9. The product of the fractions 1 1/3, 3 1/4 & 7/8 is
   a) 3 1/24 b) 3 19/24 c) 3 5/24 d) 19 3/7
10. If A is the largest factor of 48 and B is its smallest multiple, then the value of 2 A+ 3B is
    a) 120 b) 360 c) 240 d) 480
11. The volume of a cylindrical tank is 32 lit. Its 4/5th part is filled with water. How much is left in the tank, if 1/4th of the water filled in it is poured into a bucket?
    a) 20 lit b) 19.2 lit c) 25 lit d) 27 lit.
12. Neha has 17 coins in her pocket. If she had 4 more coins, she would have exactly thrice as many coins as her friend Sheetal. How many coins did Sheetal have?
    a) 21 b)14 c) 7 d) 24
13. A decimal number D when converted into a fraction gives 25/2. Find the value of D.
    a) 7.25 b) 6.35 c) 12.5 d) 6.25
14. Which of the following are supplementary angles?
    a) 180°, 180° b) 100°, 80° c) 50°, 150° d) 40°, 50°
15. Mohit is twice as old as his wife. If he is 64 years old now, how old will his wife be in 7 years time?
    a) 39 years b) 96 years c) 71 years d) 32 years
16. This shape has no flat faces and no corners. It looks the same from all directions. What shape is it?
    a) pyramid b) cylinder c) sphere d) cone

17. Some insects can lift objects that weigh 10 times their weight. If Nancy whose weight is 25kg could do the same, how much could she lift?
a) 35kg b) 120kg c)ll2kg d) 250kg

18. Find the H.C.F of 144 and 292.
a) 4 b) 8 c) 12 d) 2

19. A milk depot sells 589 litres of milk each day. What is the total milk it will sell in the months of March, April and may?
a) 54188 b) 53188 c) 55188 d) 56188

20. The weight of a geometry box is approximately
a) 200g b) 2g c) 200mg d) 2kg.

21. A set of whole numbers satisfy_____ property/properties under multiplicative.
a) closed b) commutative c) associative d) none

22. Which of the following would give the value zero?
a) 30÷0 b) 30X0 c) 0÷30 d) 0÷0

23. The prime number between 40 and 50 is
a) 49 b) 47 c) 41 d) 364

24. The common multiple of 7 and 13 is
a) 91 b) 182 c)273 d) 364

25. The fraction that is equal to 3/7 is
a) 3/14 b) 6/14 c) 9/21 d) 12/13

26. Which of the following statements is true?
a) 5 hours is 1/6 of a day b) 4 days is 4/7 of a week
c) 1 month is 1/12 of a year d) 6 months is 1/2 of a year

27. Which of the following is the greatest decimal?
a) 0.0019 b) 0.009 c) 0.019 d) 0.0091

28. Which of the following fractions has the same value as 0.009?
a) 9/100 b) 1/900 c) 9/1000 d) 1/9000

29. The price of 3 kg grapes is Rs.24. The price of 7 kg of the same grapes is:
a) Rs.8 b) Rs.56 c) Rs.21 d) Rs.36

30. A sum of money is divided into three parts in the ratio of 2:3:4. The largest part is Rs. 140. The total sum of money is
a) Rs. 540 b) Rs.315 c) Rs. 310 d) Rs. 360

31. A total of 500 sweets is to be divided among Radha, Ahmed and Krishna respectively in the ratio of 3:8:14. How many sweets will Radha get?
a) 60 b) 80 c) 160 d) 280

32. If 3/4 of the property costs Rs.15,000 what is the cost of 1/2 of it?
a) Rs. 16,000 b) Rs. 20,000 c) Rs.14,000 d) Rs.10,000

33. If a train covers 200km in 5 hrs. How many km will it cover in 8 1/2 hrs?
a) 320 km b) 350km c) 340km d) none of these.

34. If 1/3 rd and 2/3rd of the property costs Rs. 600 and Rs.1200 respectively. What is the total property cost?
a) Rs. 1,200 b) Rs. 1,500 c) Rs. 1,800 d) Rs. 2,400

35. 5/6 of a complete turn is:
a) 50° b) 220° c) 110° d) 300°

36. How many complete turns is equivalent to 90°?
a) 2 b) 1 c) 1/2 d) 1/4

37. Which of the following can be the measures of the sides of a triangle?
a) 3cm, 3cm, 5cm b) 6cm, 6cm, 6cm c) 6cm, 4cm, 2cm d) l0cm, 6cm, 3cm

38. A rectangle is a:
a) quadrilateral b) special type of triangle c) Parallelogram d) square

39. Stick P is 40 cm shorter than stick Q. Stick R is 60 cm longer than stick Q. Find the difference in length between stick P and stick R.
a)20cm b) 100cm c) 92 d) 2

40. Which of the following has the same value as 150 g X 7?
a) 1.05 kg÷10 b) 1.5kg+10 c) 15 kg÷ 100 d)105kg÷ 100

SECTION B
SCIENCE

1. Which of these protects the baby plant?
a) Radical b) plumage c) cotyledons d) micropyle
2. Which of the following organs is NOT a part of human nervous System
a) Brain b) Spinal cord c) Humerus d) Nerves
3. Which of these is present in a molecule of water?
a) Oxygen b) Hydrogen c) Nitrogen d) Both A and B
4. I protect the brain. I am made up of bones which are fused firmly together to form a shell or box like structure. What am I?
a) Ribcage b) Skull c) Spine d) Sternum
5. Which of these is used for making fertilisers?
a) Nitrogen b) Carbon c) Carbon dioxide d) Oxygen
6. Which type of rock is pumice?
a) Igneous rock b) Sedimentary rock c) Metamorphic rock d) Both (B) and (C)
7. Which of the following mixtures can be separated easily by using a magnet?
a) Sand + Water b) Iron dust+ Sand c) Sawdust +stones d) Stones + Sand
8. Some animals living in water have streamlined body shapes. This helps them to
a) keep their body warm b) Reduce loss of water
c) Reduce friction in water d) Decrease body weight.
9. The changing of the shapes of the moon is called
a) Eclipse b) Shadow c) Phase d) Reduction
10. If there is no rain, crops fail to grow. This condition will lead to
a) Flood b) Drought c) Famine d) Both B & C
11. Which of the following is a deficiency disease?
a) Measles b) Goitre c) Typhoid d) Cholera
12. Which of these is/are fossil fuels?
a) Coal b) kerosene oil c) All of these d) Natural gas.
13. Which of the following objects does not emit light of its own?
a) The sun b) The star c) The moon d) A Firely
14. How does light travel?
a) Rectilinear propagation b) Random motion
c) Curvilinear motion d) Circular motion
15. Which of the following statements about light is correct?
a) A pinhole camera can take pictures of moving objects.
b) The image formed on the screen of a pin hole camera is erect.
c) Light rays incident on a mirror can be reflected.
d) Opaque objects emit light of their own.
16. If we touch a live wire carrying current we get a shock. This is because our body is a/an
a) conductor of electricity b) insulator of electric
c) source of electricity d)both (b) and (c)
17. Which of the following does NOT conduct electricity?
a) Aluminium b) Salt solution c) Ceramic articles d) Silver
18. Which of the following cannot be used in electrical wires?
a) copper b) Silver c) Aluminium d)lron
19. Tube lights are preferred to bulbs mainly because
a) bulbs give more light. b) bulbs are cheaper
c) bulbs get fused easily/frequently d) bulbs produce shadows.
20. What is a natural magnet known as?
a) Toroid b) Lodestone c) Haematite d)Solenoid

21. In which direction does a magnet always point when suspended freely?
    a) South - West b) North - South c) East - West d) West -South
22. In many household articles, magnets in the lids/covers are present. Why are magnets used in such instances.
    a) To facilitate their frequent usage. b) To ensure safety of the contents.
    c) To make the articles airtight d) To make the articles look beautiful.
23. Nagender is playing with a ball. The motion(s) exhibited by the ball is /are
    a) curvilinear b) circular c) rectilinear d) both (A) and (C)
24. Why is copper NOT used as a filament?
    a) It produces white light. b)It has a high melting point.
    c) It is a good conductor of current d) It produces heat.
25. Which of the following does NOT contain a magnet in it?
    a) A torch b) A radio c) A fan d) Both (B) and (C)
26. Which of the following is NOT a characteristic of a standard unit?
    a) It should be of convenient size.
    b) It should not change with respect to space and time.
    c) It should be perishable.
    d) It should be easily reproducible.
27. Which of the following is true of pure water?
    a) A good conductor of electricity b) A bad conductor of electricity.
    c) A semiconductor d) A Superconductor
28. Which of the combinations is the odd one out?
    a) Ink and water b) Milk and water
    c) Oil and water d) Lime juice and water
29. Which of the following separation techniques is used for separating a mixture of two or more gases?
    a) Sedimentation b) Liquification c) Hand picking d) Decantation
30. A compound has
    a) only one kind of mixture. b) only one kind of element.
    c) a mixture of elements and molecules. d) only one kind of molecules.
31. Which of the following is an example of a solid-in-gas mixture?
    a) Soil b) Smoke c) Moisture d) Dew
32. What kind of mixtures are alloys?
    a) Solid - Gas b) Liquid - Liquid c) Gas -Gas d) Solid - Solid
33. Clouds are formed due to
    a) only evaporation b) only condensation
    c) both evaporation and condensation d) only vaporisation
34. In early winter mornings, we can see drops of water on the grass. This is because of
    a) photosynthesis b) transpiration c) condensation d) water cycle
35. Which of the following can show the direction of the wind?
    a) An anemometer b) A wind mill c) A wind vane d) A barometer
36. The pecentage of water vapour present in air is called
    a) density b) humidity c) mass d) solubility.
37. The percentage of nitrogen in air is
    a) 21% b) 0.1% c) 54% d) 78%
38. The correct ascending order of gases as per their composition in the atmosphere is
    a) oxygen<carbon dioxide<nitrogen. b) hydrogen<oxygen<nitrogen.
    c) nitrogen <hydrogen<oxygen d) oxygen<carbon dioxide<hydrogen.
39. Which two body systems most directly cause the arm to bend?
    a) Skeletal and muscular. b) Reproductive and circulatory.
    c) Respiratory and excretory d) Nervous and digestive.
40. Which parts of the fish helps it to move forward?
    a) hands and fins b) legs and fins c) Gills and fins d) fins and tail.

SECTION C
GENERAL KNOWLEDGE

1. Kaziranga National park was in the news for gunning down of the poachers by the special task force. This park is a UNESCO world heritage site of India and is located in
   a) Meghalaya b) Assam c) Arunachal Pradesh d) Manipur
2. Which of the following is the first state in India to introduce the midday meal scheme?
   a) Kerala b) Tamil Nadu c) Gujarat d) Karnataka
3. On July _____. man walked on the moon for the first time.
   a) 20th b) 21st c) 19th d) 18th
4. The Government of India has decided to celebrate S Ramanujan's birthday as National Mathematics Day on.
   a) 22nd December b) 23rd December c) 22nd November d) 22nd October
5. _____ is Jallianwala Bagh Massacre Day.
   a) 11th April b) 16th April c) 13th April d) 18th April
6. International Labour Day is on
   a) 1st May b) 1st March c) 1st June d) 5th May
7. The lower age limit to get right to vote for an Indian citizen is
   a) 18 years b) 20 years c) 21 years d) 25 years
8. Saurashtra is mostly covered by
   a) Red soil b) Alluvial soil c) Black soil d) Late rite soil
9. Which of the following is the highest peak **of** the Eastern Ghats?
   a) Doda Betta b) Mahendragiri c) Javadi Hills d) Shevroy Hills
10. Which vitamin is prepared by our body in the presence of Sunlight?
    a) Vitamin A b) Vitamin B- complex c) Vitamin c d) Vitamin D
11. Dolomite is an ore of
    a) Magnesium b) Manganese c) Aluminium d) Iron
12. Which of the following is a product of photosynthesis?
    a) Oxygen b) Carbon dioxide c) Hydrogen d) Water
13. Which of the following is the second highest peak in the world?
    a) kanchenjunga b) K2 c) Lhotse d) Nanga Parbat
14. A member of a legislative council, in India, is elected for
    a) Five years b) Six years c) Seven Years d) Ten years
15. Lion- tailed macaque is naturally found in which of the following states?
    a) Gujarat b) Madhya Pradesh c) Kerala d) Jammu and Kashmir
16. How many fundamental rights are provided by the Constitution of India to its citizens?
    a) 5 b) 6 c) 7 d) 8
17. The term 'Butterfly stroke' is related with
    a) swimming b) boxing c) wrestling d) kabaddi
18. which award is given for excellence in sports?
    a) Jamnalal Bajaj Award b) Arjuna Award c) Tagore Award d)Moortidevi Award.
19. Jallikattu / Manju Virattu is a _____ sport played in Tamil Nadu.
    a) Bull taming b) Horse riding c) Water sport d) Cock fighting
20. How many players are there in a kabaddi team?
    a) 11 b) 9 c) 5 d) 7

VII AND VIII STD.

SECTION

MATHEMATICS

1. If two numbers are equal, then
   a) Their LCM is equal to their HCF b)Their LCM is less than their HCF
   c) Their LCM is equal to two times their HCF d) None of these
2. A man has to travel a certain distance. If he travels three-fifth of the distance in a day and the rest the next day, then what part of the distance has he travelled on the second day?
   a) 3/5 b) 2/5 c) 1/5 d) 4/5
3. Which of the following is/ are recurring decimals?
   a) 1/3 b) 2/7 c) 1/5 d) both (a) and (b)
4. The HCF and the LCM of two numbers are 24 and 1008. If one of the numbers is 168, then find the other number.
   a) 336 b) 252 c) 148 d) 144
5. Krishna purchased 20 pencils for his two sond, Akhil and Nikhil. Akhil took two-fifth of the total number of pencils and Nikhil took the remaining pencils. Find the number of pencils taken by nikhil.
   a) 8 b) 12 c) 6 d) 14
6. Which of the following is not an identity?
   a) $a^2+2ab+b^2 = (a+b)(a+b)$ b) $(x-y)^2 = x^2-2xy +y^2$
   b) $(p+q)(p-q) = p^2-q^2$ d) x+2=3
7. If x=2 and $x^2+y^2+3xy= -5$, then find y
   a) -2 b) 3 c) -4 d) 9
8. For what value of K, is $16x^2+24xy+k$ a [erfect square?
   a) $9y^2$ b) $18y^2$ c) $3y^2$ d) $16y^2$
9. Which of the following is a perfect square?
   a) $9x^2+24xy+4y^2$ b) $4x^212xy+3y^2$ c) $25x^2-10xy+4y^2$ d) $25x^2-30xy+9y^2$
10. What should be subtracted from x^3-7x^2+17, so that difference is a multiple of x-3?
    a) 5 b) 32 c) 7 d) 43
11. If a train 100m long, takes 10 seconds to cross a telegraph post, then how much time does it take to cross a bridge of length 100m (in seconds)
    a) 12 b) 15 c) 20 d) 24
12. Which of the following fractions is equivalent to 16.6%?
    a) 1/6 b) 3/6 c) 7/40 d) 8/60
13. The ages of ram and shyam are in the ratio 7:6 and the sum of their ages is 78 years. Find the age Ram and shyam respectively (in years).
    a) 36, 43 b) 42, 36 c) 30, 48 d) 40, 38
14. A trader purchased a bicycle for Rs.2500 and sold it at Rs.2700 Find his profit percentage.
    a) 8% b) 10% c) 6% d) 4%

15. Which of the following yields maximum interest for 2 years?
    a) Rs.1500 at 8% per annum b) Rs.1000 at 11% per annum
    b) Rs. 2000 at 5% per annum d) Rs. 900 at 20% per annum
16. 2^{3^2} =
    a) 64 b) 32 c) 256 d) 512
17. Varun secured x marks in maths and rahul secured x^2 marks in maths. The products of their mark was 729. Find their marks.
    a) 3,243 b) 9,81 c) 27,27 d) none of these
18. The area of a parallelogram is $50cm^2$. If the base is 10cm, then find its corresponding height.
    a) 10cm b) 15cm c) 5cm d) none of these
19. If 1.7y+2.3y = 2, then y=
    a) ¼ b) ½ c)8 d) 6
20. If 3(a-2)-2(a+9) =1, then a =
    a) 20 b) 22 c) 25 d) 27
21. Find the unit digit in the product of the first 50 odd natural numbers.
    a)0 b) 5 c) 7 d) none of these
22. there are 20 balls. The balls are numbered consecutively starting from 1 to 20. For any case, the sum of the numbers on all the balls will be a/an
    a) odd numberb) even number c) prime number d) cannot say
23. mukesh bought 3 apples, 5 bananas and 7 custard apples for a certain amount (which is even). The cost of apples, bananas and custard could be (in Rs)
    a) 5,7,9 b) 9,8,6 c) 2,4,5 d) 9,10,11
24. find the greatest four digit number which when divided by 18 and 12 leaves a remainder of 4 in each case.
    a) 9976 b) 9940 c) 9904 d) 9868
25. the square root of 36/5 correct to two decimal places is
    a) 2.68 b) 2.69 c) 2.67 d) 2.66
26. If the product of two equal numbers is 1444, then the numbers are
    a) 48,48 b) 38,38 c) 32,32 d) 42,42
27. The square root of 102 up to three decimals places is
    a) 10.098 b) 10.099 c) 10.097 d) 10.096
28. a number is multiplies by half of itself and then 32 is added to the product. If the final result is 130, then find the original number.
    a) 4 b) 7 c) 5 d) 14
29. the age of a boy is one-fifth of his mother and the sum of the ages of the son and the mother is equal to the age of the father. After 15 years, the sum of the ages of the son and his mother will be four-third of his father's age. Find the ratio of the present ages of the son, mother adnd father respectively.
    a) 1:5:7 b) 2:10:10 c) 1:5:6 d) 2:8:9
30. if $x = 4\sqrt{2} \div \sqrt{2} + 1$, then find the value of x+2/x-2 – x+2√2/x-2√2
    a)2 b) 12+8√2 c) 12-8√2 d) -2
31. In a school there are 650 students. The ratio of the boys to the girls is 8:5. How many more girls
    a) 25 b) 50 c) 100 d) 200
32. In a test, rohan got 30% of the maximum marks and failed by 10 marks. Whereas,sohan got 40% of the maximum marks and got 10 marks more than the pass mark. Find the pass mark.
    a) 65 b) 70 c) 75 d) 80

33. If the mean of first ‘y’ natural numbers is 28, then find y.
    a) 28 b) 27 c) 56 d) 55
34. The average weight of 25 student of a class is 28kg. if the average weight of all the boys is 30kg and average weight of the all girls is 25kg, then find the number of boys in the class.
    a) 10 b) 15 c) 12 d) 13
35. In a company, the average salary of male employees is Rs.8200 and that of female employee Rs.7200. If the average salary per employee us Rs.7900, then the percentage of female employees of the total employees is
    a) 30 b) 40 c) 50 d) 25
36. The ratio of the mode and the median of a set of values is 15:11. Find he ratio of their mean and mode
    a) 4:5 b) 7:10 c) 9:10 d) 3:5
37. A conical tent is 48m high and the diameter of its base is 28m. the cost of the canvas required to make the tent at the rate of Rs.50 per square meter is
    a) Rs.1,10,000 b) Rs.1,05,600 c) Rs.11,000 d)Rs.1,27,400
38. If the base radius of a cone is doubled and its height is halved, then which of the following is true regarding its volume?
    a) it increase by 200% b) it decreases by 200%
    c) it increases by 100% d) it decrease by 100%
39. Find the slant height of the largest possible cone that can be inserted in a hemisphere of volume 144 π cm^3
    a) $9\sqrt{2}$ cm b) $12\sqrt{2}$ cm c) $6\sqrt{2}$ cm d) $7\sqrt{2}$ cm
40. A hollow sphere which has internal and external diameters as 14 cm and 16 cm respectively is melted and recase into a cone with a height of cm. Find the diameter of the cone.
    a) 6.5 b) 13cm c) 26cm d) 10cm

SECTION B
SCIENCE

41. The SI unit of specific heat capacity is
    a) J kg^{-1} $°C^{-1}$ b) cal g^{-1} $°C^{-1}$ c) J kg^{-1} k^{-1} d) all the above
42. from the following, choose the correct option that represents the order of the thermal expansion is solids(S), liquid (L) and gases (G) for an equal rise in temperature.
    a) L>S>G b) S>L>G c) G>S>L d) G>L>S
43. In a thermos flask, the loses of heat energy due to the following method is minimized.
    a) conduction b) convection c) radiation d) all the above
44. Heat energy brings about
    a) chemical changes in matter b) change in dimension
    c) change in temperature d) all the above
45. If an object is places between two mirrors which make an angle of 45° with each other, then the number of images formed are
    a) 1 b) 7 c) 2 d) infinite
46. The number of images of an object placed between two plane parallel mirrors is
    a) two b) one c) infinite d) cannot be determined
47. A sound wave makes an angle of 30° with the reflecting surface. The angle of reflection is
    a) 30° b) 60° c) 90° d) 120°
48. If the depth of the sea is 1.125km, the time taken for the reflected sound to reach the sonar is (velocity of sound in water is 1500m s^{-1})
    a)1 b) 1.5 c) 2 d) 2.5

49. A man is standing not exactly at the centre of two walls. He fires a gun and hears the first echo after 1 s and the second echo after 2 s. If the speed of the sound is 330 m s^{-1}, what is the distance between the walls?
    a) 330m b) 360m c) 420m d) 495m
50. The frequency of a vibrating body is 10 Hz. The time taken by it to complete 5 vibrations is
    a) 0.5 b) 5 c) 2 d) 10
51. Identify the change undergone by the burning of wood.
    a) Recersible b) Ohysical change c) chemical change d) all the above
52. Which of the following is a physical change?
    a) Griding ofwheat b) photosynthesis c) curdling of milk d) burning of coal
53. Which acid is present in vinegar?
    a) Formic acid b) Acetic acid c) Citric acid d) Malic acid
54. What is injected into the skin when an ant bites?
    a) acid b) base c) salt d) water
55. What is the effect of soap solution on phenolphthalein?
    a) It turns pink b) It remains colourless c) It turns blue d) It turns red
56. What is the chemical formula if caustic soda?
    a) $Mg(OH)_2$ b) KOH c) $CA(OH)_2$ d) NaOH
57. Which structure in a green plant controls the opening and closing of stomata?
    a) Guard cell b) Mesophyll c) phloem d) Xylem
58. What is the principal source of energy input into a biological system?
    a) Carbohydrates from plants b) Light from the sun
    c) Nutrients from the soil d) Oxygen from the air
59. Lichens are examples of which of the following?
    a) symbiotic algae and fungi b) Carnivorous
    c) animals which can perform photosynthesis d) parasitic algae
60. which of these plants trap and feed on insects?
    a) Cuscuta b) China rose c) Pitcher plant d) Rose
61. which of the following is a non-contact force?
    a) muscular force b) electrostatic force c) elastic spring force d) frictional force
62. what causes atmospheric pressure?
    a) the sky above our head b) the air surrounding the earth
    c) the gravitaional force of the sun and other planets d) the mass of the earth
63. which of the following frequencies cannot be heard by human beings?
    a) 1000Hz b) 10,000 Hz c) 100 Hz d) 1,00,000 HZ
64. What is the number of vibrations made by a body in one second called?
    a) Frequency b) Wavelength c) Loudness d) Pitch
65. Which of the following correctly describes the pitch and the frequency of the sound of a girl's scream?
    a) Low pitch, low frequency b) Low pitch, high frequency
    c) High pitch, low frequency d) High pitch, high frequency
66. A bomb explodes on the moon. How long will it take for the sound to reach the earth?
    a) 10 seconds b) 1000 seconds c) 1 day d) sound will not be heard
67. In a stethoscope, how does the sound of heart beat travel thought its tube?
    a) By bending along the tide b) In a straight line
    c) By undergoing multiple reflections d) As ultrasonic frequency

68. The frequency of a source is 15 KHz. What wil be the frequency of the sound waves produced by it in waer and air?
    a) it is the same as that of the source
    b) Frequency in water will be more than that in air
    c) Frequency in air will be more than tha in water
    d) Depends upon the velocities of sound in these media
69. study the reaction gives below.
    $X+YSO_4$ ----> $Y+X\ SO_4$. What are 'X' and 'Y'?
    a) Al, Mg b) Zn, Cu c) Ag, K d) H, Al
70. Which of the following is a chemical displacement reaction?
    a) $2Al + Fe_2O_3 \xrightarrow{Heat} Al_2O_3 + 2Fe$+ Heat b) $2NA + Cl_2$ -----> 2 NaCl
    c) $P_2O_5 + 3\ H_2O$ -----> $2H_3\,PO_4$ d) $2\ PbS + 3O_2 \xrightarrow{Heat} PbO + 3SO_2$
71. During fractional distillation, the crude petroleum is heated to
    a) 600° C. b) 400-500° C c) 200° C d) 100° C
72. By which of the given process is coal formed?
    a) Carbonisation b) Distillation c) Vaporisation d) Evaporation
73. What do fuels combine with to produce heat and light?
    a) CO_2 b) CO c) H_2 d) O_2
74. What does natural gas mainly consist of?
    a) C_2H_6 b) CH_4 c) C_3H_4 d) C_4H_{10}
75. Which of the following saclike structures help in the synthesis and storage of many subtances?
    a) Endoplasmic reticulum b) Nucleus c) Mitochondria d) Golgi bodies
76. Which of the following structure regulate cell division in animal cells?
    a) Chromosomes b) Chromatin c) Centosome d) Spindle fibrils
77. Which of the following is/are the green plastids?
    a) Carotenoids b) Xanthophylls c) Chloroplasts d) All the above
78. Which of the following is the correct combination?
    a) Lysosomes- Intracellular digestion b) Microtubules – Respiration
    c) Mitochondria – Cell secretion d) Golgi Comples – Energy
79. Which of the following is the characteristic feature that distinguishes algae from fungi?
    a) Heaterotrophic b) Autotrophic c) Parasitic d) Sporophytic
80. Which of the following statements is true for viruses?
    a) Viruses multiply only in a living host
    b) Their crystals have a definite shape
    c) Viruses grow and multiply by themselves outside the host
    d) Viruses may be crystallized

SECTION - C
GENERAL KNOWLEDGE

81. The chipko movement was started to stop
    a) Illegal acquisition of land b) Deforestation
    c) Huntion of tigers d) Illegal indigo plantation
82. Red data book is a book which keeps a record of
    a) Earthquakes b) Cyclones c) Endangered species d) Nuclear reactions
83. The northern planis of india are formed of
    a) Alluvial soil b) Red and yellow soil c) Black soil d) Laterite soil

84. Article 17 of the india constitution is about
a) right to religion b) Right to freedom
c) Right to education d) Abolition of untouchbility

85. Name the NASA spacecraft set to arrive at Jupiter in 2016 to study the giant planet from an elliptical, polar orbit after the spacecraft successfully executed a manoeuvre to adjust its flight path on 4th February, 2016
a) Juxo b) Juno c) Juko d) Jumo

86. NASA's New Horizons mission spotted floating hills on one of the following planets. Identify it.
a) Mars b) Pluto c) Jupiter d) Neptune

87. In India, increase of population and diversion of agricultural land for non- agricultural purpose have resulted in the decrease of
a) forested land b) cultivable wasteland
c) net sown area d) double cropped area

88. which one among the following is a primary rock?
a) Sedimentary b) Igneous c) Metamorphic d) None of these

89. Which one of the following soils is most suitable for cotton cultivation?
a) Red soil b) Black soil c) Loamy soil d) Laterite soil

90. Which one of the following districts is well known for the cultivation coffee?
a) Balasore b) Chikmaglur c) Guntur d) Khurda

91. Xerophytes represent the class of vegetation found in
a) tropical rain forest b) humid micro- thermal climate
c) semi- arid steppes d) tundra region

92. Which one of the following is not a form of stored energy?
a) Nuclear energy b) Potential energy c) Electrical energy d) Chemical energy

93. Which one among the following india states shares boundaries with largest number of states?
a) Madhya pradesh b) Chhattisgarh c) Maharashtra d) Assam

94. Which of the following can be threats to the biodiversity of a geographical area?
1) Global warming 2) Fragmentation of habitat 3) Invasion by alien species
4) Promotion of vegetariaanism
Select the correct answer using the codes given below
a) 1,2 and 3 b) 2 and 3 c) 1 and 4 d) all of these

95. Which organization prepares the topographical maps of india?
a) Geological survey of india b) Archaeological Survey of india
c) Survey of india d) National atlas and thematic mapping organisation

96. Which one of the following is the largest linguistic group of india?
a) Sino- Tibetan b) Austic c) Indo- Aryan d)Dravidian

97. Air pollutants most often lead to human health problems of the '
a) Circulatory and respiratory systems. b) Circilatory and digestive systems
c) Integumentary and muscular systems. d) Muscular and skeletal systems

98. Ozone layer of the atmosphere provides a shield against
a) X- rays b) ultraviolet c) Y-rays d) Infrared rays

99. The organisms which feeds on bodies of the dead organisms is
a) scavengers b) decomposers c) carnivores d) both 'a' and 'b'

100. The main chemical responsible for ozone depletion is
a) PAN b) hydrocabon c) Freon d) CFC.

IX AND X STD.

SECTION-A
MATHEMATICS

1.1 The polynomial $px^2+qx+rx^4+5$ is of type

a) Linear b) quadratic c) cubic d) Biquadratic

1.2 The value of $\frac{(361)^3+(139)^3}{(361)^2-361x139+(139)^2}$ is

a) 300 b) 500 c) 400 d) 600

2.1 In Δ ABC, A-B=15˚, B-C =30˚, measures of <A, <B and <C will be

a) A=80˚, B=65˚,C=35˚ b) A=65˚,B=80˚,C=35˚

c) A=35˚,B=65˚,C=80˚ d) A=80˚,B=35˚,C=65˚

2.2 The angles of a triangle are arranged in ascending order. If the difference between consecutive angles is 10˚. All the three angles will be

a) 40˚,60˚,80˚ b) 45˚,55˚,65˚ c) 40˚,50˚,60˚, d) 50˚,60˚,70˚

3.1 In ΔABC, if <A=<C then AB=

a) BC b) AC c) AB d) None of these

3.2 InΔABC, if AB =AC then altitude BD is _____altitude CE.

a) Greater than b) equal to c) less than d) None of these

4.1 Which of the line is parallel to Y=X-2

a) Y=2X+1 b) 2Y=2X-6 c) 2Y=X+7 d) Y=3X+1

4.2 Which graph is equally inclined to both the axes

a) $X=\frac{1}{2}Y$ b) X=2Y c) 2Y=X d) 2Y=2X

5.1 The area of a rhombus whose diagonals are 16cm and 24 cm will be

a) 182 cm^2 b) 202 cm^2 c) 92cm^2 d) 192cm^2

5.2 The area of a trapezium whose parallel sides are 9cm and 6cm respectively and distance between these sides is 8 cm will be

a) 50 cm^2 b) 60 cm^2 c) 70 cm^2 d) 80 cm^2

6.1 The graph of the line Y=|X| lies in

a) I and III quadrant b) I and II quadrant

c) II and IV quadrant d) none of these

6.2 A linear equation in two variables ax+by+c=0 has

a) One solution b) many solutions c) no solution d) none of these

7.1 ABCD is a parallelogram in which <A=72˚. Measure of <B, <C and <D will be

a) 72˚,108˚,108˚ b) 108˚,108˚,72˚ c) 108˚,72˚,108˚ d) none of these

7.2 Each side of a rhombus is 10cm and one of its diagonal is 16cm. The length of the other diagonal will be

a) 11cm b) 12cm c) 13cm d) none of these

8.1 A chord of length 30cm is drawn at a distance of 8 cm from centre of a circle, then the radius of the circle will be

a) 12cm b) 15cm c) 17cm d) 19cm

8.2 In a cyclic quadrilateral, ABCD if <A=80˚, then <C=

a) 80˚ b) 100˚ c) 90˚ d) none of these

9.1 The following data have been arranged in the ascending order 29,32,48,50,x,x+2,72,78,84,95. If the median of the data is 63, the value of x is

a) 31 b) 62 c) 124 d) none of these

9.2 The mean of the data $y_1, y_2 \ldots y_n$ is 102, then the mean of the data $5y_1, 5y_2 \ldots 5y_n$ is

a) 102 b) 204 c) 510 d) 606

10.1 There are 5 prizes on 1000 tickets of a lottery. The probability of winning prizes is

a) $\frac{199}{200}$ b) $\frac{1}{200}$ c) $\frac{198}{200}$ d) none of these

10.2 A dice is thrown once. The Probability of getting a number 3 or 4 is

a) $\frac{1}{6}$ b) $\frac{2}{3}$ c) $\frac{1}{2}$ d) $\frac{1}{3}$

11.1 π is a

a) natural number b) integer c) rational number d) irrational number

11.2 2.13113111311113.. is

a) a rational number b) an irrational number

c) an integer d) none of these

12.1 If (x) = px^2+qx+r has no real zeros and P+q+r<0, then

a) r=0 b) r>0 c) r<0 d) none of these

12.2 If zeros of the polynomial f(x) = x^3-3px^2+qx-r are in Arithmetic progression, then

a) $2p^3=pq-r$ b) $2p^3=pq+r$ c) $p^3=pq-r$ d) none of these

13.1 For what value of p and q, the system of equations has infinite number of solutions:
2x+3y=7, [p+q]x+[2p-qy]y=21

a) p=3, q=2 b) p=5, q=1 c) p=1, q=5 d) p=5,q=-1

13.2 For what value of p, the system is inconsistent: 3px+6y= $\sqrt{50}$, $\sqrt{18}$x+ $\sqrt{24}$y= $\sqrt{75}$

a) $\sqrt{3}$ b) $\sqrt{5}$ c) $\sqrt{2}$ d) $\sqrt{6}$

14.1 If 3 sin θ + 4cos θ = 5, then the value of sin θ is

a) $\frac{3}{4}$ b) $\frac{3}{5}$ c) $\frac{4}{5}$ d) none of these

14.2 ($\cos\theta^\circ$ + sin 45° + sin 30°) (sin 90° - cos45° + cos60°) =

a) $\frac{3}{5}$ b) $\frac{5}{6}$ c) $\frac{7}{4}$ d) $\frac{5}{8}$

15.1 If the mean of the following data is 15.

X	5	10	15	20	25
F	6	K	6	10	5

Then k is equal to

a) 7 b) 8 c) 10 d) none of these

15.2 The mode of the frequency distribution is

Class	10-15	15-20	20-25	25-30	30-35
frequency	4	7	20	8	1

a) 22.6 b) 24.4 c) 23.4 d) none of these

16.1 for $ax^2+bx+c=0$, which of the following statements is wrong?

a) If $b^2 - 4ac$ is a perfect square, the roots are rational.

b) If $b^2 = 4ac$, the roots are real and equal.

c) If $b^2 - 4ac$, is negative, no real roots exists.

d) If $b^2 = 4ac$, the roots are real and unequal.

16.2 For what value of t is x=$\frac{2}{3}$a solution of $7x^2+tx-3=0$

a) -6 b) - $\frac{1}{6}$ c) $\frac{1}{6}$ d) 6

17.1 The positive value of p for which equations $x^2+px+64=0$, and $x^2-8x+p=0$ will both have real roots will be

a) P≥16 b) p≤16 c) p=16 d) none of these

17.2 If the equation x^2-kx+1, have no real roots then

a) -2<k<2 b) -3<k<3 c) K>2 d) K<-2

18.1 If the sum of three consecutive terms of an increasing Arithmetic progression, (A.P) is 51 and the product of the first and third of these terms is 273, then the third term is

a) 13 b) 9 c) 21 d) 17

18.2 If the sum of n terms of an A.P is 3n2+4n, then common difference of the A.P is

a) 3 b) 4 c) 6 d) 7

19.1 The y-axis divides the line-segment joining the points (-4, 5) and (3,-7) internally in the ratio

a) 2:7 b) 3:7 c) 4:3 d) 3:4

19.2 The centre of a circle is at (-1, 3) and one end of the diameter has coordinates (2,5). The coordinates of the other end are

a) (-4,1) b) (1, -4) c) (4, -1) d) none of these

20.1 A child has a block in the shape a cube with one letter written on each face as shown below:

A	B	C	B	D	D

The cube is thrown once. The probability of getting B or C is

a) $\frac{1}{3}$ b) $\frac{1}{2}$ c) $\frac{2}{3}$ d) none of these

20.2 A bag contains 5 red balls and n green balls. If the probability of drawing a green ball is three times that of a red ball, then n is equal to

a) 10 b) 20 c) 15 d) 5

SECTION - B

SCIENCE

1. The chemical substance most abundantly present in the middle lamella is
   a) Calcium pectate b) suberin c) lignin d) calcium phosphate
2. The smallest organelle in a cell is
   a) Lysosomes b) spherosomes c) perosysomes d) ribosomes
3. lymph differs from blood in possessing
   a) only WBC b) more RBC and WBC
   c) more RBC and fewer WBC d) more WBC and fewer RBC
4. which of the following tissue is composed of mainly dead cells?
   a) Phloem b) epidermis c) xylem d) endodermis
5. P is a point in a circle of radius r. On completing 4 rounds from p, the distance travelled is
   a) 2πr b) 8πr c) 4πr d) 2πr
6. A body covers half the distance with a speed of 20m/s and the other half with a speed of 30 m/s. The average speed of the whole journey is
   a) 25 m/s b) zero c) 24 m/s d) 2.4 m/s
7. When a force of 1 N acts on a mass of 1 kg that is free to move, the object moves with
   a) Speed of 1 m/s b) speed of 1 km/s c) acceleration of 10 m/s^2 d) acceleration of 1 m/s^2
8. When a net force acts on an object, the object will be accelerated in the direction of the force with an acceleration proportional to:
   a) The force on the object
   b) velocity of the object
   c) mass of the object
   d) inertia of the object
9. a stone dropped from a building top takes 4 s to reach the ground. The height of the building is

a) 78.4 m b) 19.6m c) 156.8m d) 78.9m

10. A ball is thrown up and attains a maximum height of 100m. its initial speed was
    a) 9.8 m/s b) 44.2 m/s c) 19.8 m/s d) 24.6 m/s
11. Oranisms like lichens are very sinsitive to the level of
    a) Cabin dioxide b) sulphur dioxide c) carbon monoxide d) methane
12. Solar radiations heat up
    a) Land faster then the water bodies
    b) Land slower then the water bodies
    c) Both land and water bodies equally
    d) Neither land nor water bodies
13. A trivalent cation of an element contains 10 electrons. The atomic number of the element is
    a) 10 b) 7 c) 13 d) none of these
14. Which of the following isotope is used in the treatment of blood cancer?
    a) P-32 b) I-131 c) Co-60 d) Any one of these
15. A prokaryotic cell
    a) Has membrane-bound organelles
    b) Has membrane- bound nucleus
    c) Lacks a true nucleus
    d) Has a clearly demarcated nucleus and other organelles.
16. The reproductive organs are hidden in
    a) Cryptogamae b) phanerogamae c) gymnosperms d) anigospherms
17. Which of the folloeing is a vector quantity?
    a) Work b) kinetic energy c) force d) potential energy
18. When mass is halved and velocity is doubled, the kinetic energy of a body
    a) Remains the same b) is doubled c) increases four times d) is $1/4^{th}$
19. A source of frequency 500 Hz emits waves of wavelength 0.2m. how long does it take the wave to travel 300m?
    a) 70 s b) 60 s c) 12 s d) 3 s
20. If ultrasonic, infrasonic and audio waves travel though a medium with speed v1, v2 and v3 respectively then:
    a) V1=v2=v3 b) v1>v3>v2 c) v1>v3>v2 d) v3≤=v1 and v1=v3
21. $Fe + CuSO_4 \text{----->} FeSO_4 + Cu$ ……(i)
    $Zn + FeSO_4 \text{----->} ZnSO_4 + Fe$ ……(ii)
    Which of the following is the correct order of reactivity on the basis of above reactions?
    a) Fe >cu>Zn b) Cu>Fe>Zn c) Zn>Fe>Cu d) Zn>Cu>Fe
22. A +BX ----> AX +B
    B+CY ---->BY+C
    Which of the following is the correct order of reactivityif ‘A’, ‘B’, ‘C’ are metals and BX and CY, AX, BY are salts?
    a) A<B<C b) A>B>C c) A>C>B d) B>C>A
23. Lime water is
    a) CaO b) $Ca(OH)_2$ c) $CaCO_3$ d) $CaCl_2$
24. Which of the folloeing will not give H^+ ions in aqueous solution?
    a) H_2CO_3 b) HCL c) C_2H_5OH d) CH_3COOH
25. Rust is hydrated
    a) Aluminium oxide b) copper oxide c) iron oxide d) silica

26. Which of the following does not conduct elecricity?
    a) Fused NaCl b) solid NaCl c) brine solution d)copper
27. The first step in photosynthesis is
    a) Joining of 3-carbon atoms to form glucose
    b) Ionisation of water
    c) Excitement of an electron of chlorophyll by a photon of light
    d) Formation of ATP
28. Which of the following has no muscular walls?
    a) Artery b) arteriole c) capillary d) vein
29. 1 KWh is equal to
    a) 3.6×10^6 MJ b) 3.6×10^3 MJ c) 3.6×10^2 MJ d) 3.6 MJ
30. How many electrons constitute a current of one microampere?
    a) $6.25^* 10^6$ b) $6.25^* 10^{12}$ c) $6.25^* 10^9$ d) $6.25^* 10^{15}$
31. The split rings in motion are called
    a) Armature b) commutator c) rotor d) core
32. The frequency of AC used in india is
    a) 50 Hz b) 100 Hz c) 200 Hz d) none of these
33. Which of the following term is a permanent method of contraception?
    a) Barrier method b) chemical method c) IUCD d) surgical method
34. Hydra commonly reproduces by
    a) Budding b) fission c) spore formation d) regeneration
35. Which of the following are analogous organs?
    a) Wings of insert and bird
    b) Forelimbs of frog and bird
    c) Scales of fish and shell of mollusc
    d) All of these
36. Which one is the purine nitrogenous base?
    a) Adenine b) cytosine c) thymine d) none of these
37. Ultraviolet radiation from the sun causes a reaction which produces
    a) O_3 b) SO_2 c) CO d) CH_4
38. Biotic factors refers to
    a) Gases produced by industries
    b) Nutrient- deficient soils
    c) Living organisms
    d) Fossil fuels
39. Tracts of land with or without a lake where wildlife is not hunted but other activities are allowed is a
    a) National park b) zoos c) sanctuary d) biosphere reserve
40. Which one of the following is a renewable resource
    a) Wildlife b) coal c) natural gas d) petroleum

SECTION - C
GENERAL KNOWLEDGE

1. India stood at which place in the human development index [HDI] among 188 countries in human development report 2015?
    a) 130^{th} b) 132th c) 135^{th} d) 140^{th}
2. Which famous author and poet was selected for the saraswati samman award 2015?
    a) Padma sachdev b) shobha de c) eunice de souza d) none of these

3. Who is known as 'the most qualified person in India' according to limca book of records?
   a) Shirkant jichkar b) A.P.J. abdul kalam c) sumitra devi d) kushal chaterjee
4. To understand better and predict earthquakes, the Indian institute of geomagnetism [IIG] has opened its third regional center in _____ in january, 2016
   a) Sikkim b) silchar c) shillong d) guwahati
5. Which one of the following is the non – symbiotic nitrogen fixing bacteria?
   a) Nostoc b) clostridium c) anabaena d) rhizobium
6. India has signed an agreement with USA for technology transfer regarding development of UAV. What is UAV?
   a) Urban airborne virus b) utility aerial vehicle
   c) utility aircraft vehicle d) unmanned aerial vehical
7. Which of the following is not related to United Nations?
   a)UNI b) UNEP c) UNDP d)UNFPA
8. Van mahotsav anannual pan- India tree planting festival is celebrated on
   a) 10th june b) 10th july c) 5th june d) 5th july
9. In which one of the following years was the planning commission set up in india?
   a) 1947 b) 1948 c) 1949 d) 1950
10. B C roy award is given in the field of
   a) music b) journalism c) medicine d) environment
11. noble prize winning Indian amartya sen is known for his work in
   a) physics b) chemistry c) medicine d) economics
12. which one of the following is the oldest grand slam of the world?
   a) wimbledon b) french open c) australian open d) US open
13. who is the first Indian woman to win an asian games gold medal in 400m race?
   a) ML valsamma b) PT usha c) Kamaljit Sandhu d) K malleswari
14. 2020 Olympic games will be held in
   a) Japan b) London c) Germany d) Rome
15. Who served as India's first Ambassador to the Soviet Union?
   a) V K Krishna Menon b) Vijayalakshmi Pandit c) K M Pannikar d) KR Narayanan
16. Which Indian Prime Minister has been conferred Saudi Arabia's highest civilian honour?
   a) Narendra Modi b) JL Nehru c) Manmohan Singh d) Indira Gandhi
17. As per Forbes 2016 ranking, the richest personn of the world is
   a) Mr. Amancio Ortega b) Mr. Warren Buffet c) Bill Gates d) Mr. Carlos Slim Helu
18. who was the first Foreign Minister of free india?
   a) Jawaharlal nehru b) Gulzarilal nanda c) Lal Bahadur shastri d) John Mathai
19. Which of the following cell organelles is very active in protein synthesis?
   a) Mitochondria b) Chloroplast c) Lysosome d) Ribosome
20. Bacteriophage is a
   a) Bacterium b) fungus c) virus d) mycoplasm