JMI Class 11 Science - 2017

01. Which of the following statements about the given reaction are correct?

$3Fe(s)+4H_2O(g) \Rightarrow Fe_3O_4(s)+4H_2(g)$

(i) Iron metal is getting oxidized
(ii) Water is getting reduced
(iii) Water is acting as reducing agent
(iv) Water us acting as oxidizing agent

(a) (I), (ii) and (iii)   (b) (iii), and (iv)
(c) (I), (ii) and (iv)   (d) (ii), and (iv)

02. Complete the following statement by substituting x and y with correct options Corrosion and rancidity are the result of 'x' reaction of iron particles and oils/fats respectively. Galvanization is done to prevent corrosion of iron particles and 'y' are used to prevent Rancidity of oils or fats.

(a) X = displacement, Y = oxidants
(b) X = displacement, Y = antioxidants
(c) X = reduction, Y = antioxidants
(d) X = oxidation, Y = antioxidants

03. Which among the following is (are) double displacement reaction (s)?

(a) $Pb+CuCl_2 \Rightarrow PbCl_2+Cu$

(b) $Na_2SO_4+NaCl_2 \Rightarrow BaSo_4+2NaCl$

(c) $C+O_2 \Rightarrow CO_2$

(d) $CH_4+2O_2 \Rightarrow CO_2+2H_2O$

04. Here are some result of solutions tested with universal indication paper.
Con.HCl : Dark Red
Con.NaOH : Dark blue
Soft drinks : Yellow
Milk of Magnesia : Light blue
Blood : Green
Arrange the solution in order of their increasing pH (Starting with the one with the lowest Ph).

(a) Con. HCl< Blood < Milk of magnesia < Soft drink < Con. NaOH
(b) Con. HCl< Soft drink < Blood < milk of magnesia
(c) Con.HCl< milk of magnesia < Soft drink < Blood < Con. NaOH
(d) Con. NaOH< milk of magnesia < Soft drink < Blood < Con. Hcl

05. Which one of the following can be used as an acid-base indicator by a visually impaired Student?

(a) Litmus   (b) Turmeric
(c) Vanilla essence   (d) Petunia leaves

06. Match the important chemicals given in column (A) with the chemical formulae given in column (B)

Column A
a) Plaster of Paris
b) Gypsum
c) Bleaching powder
d) Slaked lime

Column B
(i) CaSO4 2H2O
(ii) CaSO4.1/2H2O
(iii) Ca(OH)2
(iv) CaoCl2

(a) A- (ii). B- (i), C- (iv), D- (iii)
(b) A-(I), B-(ii), C-(iv), D-(iii)
(c) A-(ii), B-(i), C-(iii), D-(iv)
(d) A-(iv), B-(i), C-(ii), D-(iii)

07. During the refining of an impure metals by electrolysis, the metal is deposited.

(a) At cathode
(b) On the bottom of electrolyte tank
(c) At anode
(d) At the bottom of electrolyte tank

08. Which of the following pair of metals exists in their native state in nature?

(a) Ag and Hg   (b) Au and Ag
(c) Au and Hg   (d) Ag and Zn

09. Which one of the following properties is not generally exhibited by ionic compounds?

(a) Solubility in water
(b) Electrical conductivity in molten state
(c) High melting and boiling points
(d) Electrical conductivity in solid

10. In a soap micelle, the soap molecule are arranged radially with

(a) Hydrocarbon ends directed towards the and ionic ends directed outwards
(b) Both ionic ends and hydrocarbon ends directed toward the centre
(c) Ionic ends directed towards the centre and hydrocarbon ends directed outwards
(d) Both hydrocarbon ends and ionic ends directed outwards

11. The organic compound which are isomeric with one another are.

(a) Alcohols and aldehydes
(b) Aldehydes and carboxylic acids
(c) Ketones and aldehydes
(d) Alcohols and ketones

12. **Which of the following statements about graphite and diamond is true?**

    (a) They have the same crystal structure
    (b) They have the same degree of hardness
    (c) They have the same electrical conductivity
    (d) They can undergo the same chemical reaction

13. **An element X has mass number 40 and contains 21 neutrons in its atom. To which group of the periodic table does it belong?**

    (a) Group I   (b) Group II
    (c) Group III   (d) Group IV

14. **Arrange the following elements in the order of their decreasing metallic character: Na Si. Cl. Mg. Al**

    (a) Cl>Si>Al>Mg>Na   (b) Na>Mg>Al>Si>Cl
    (c) Na>Al>Mg>Cl>Si   (d) Al>Na>Si>Ca>Mg

15. **he electronic configuration of the element X is 2, 8, 6, What is the valency of X?**

    (a) 4   (b) 2
    (c) 6   (d) 5

16. **Lymph vessels finally open into.**

    (a) Lymph node   (b) Larger arteries
    (c) Larger vents   (d) Lymphoid organs

17. **Waste products (such as resin and gums) in plants are stored in**

    (a) Old xylem   (b) Vacuoles
    (c) Old phloem   (d) Golgi body

18. **Oxygenated blood comes in heart by:**

    (a) Pulmonary arteries   (b) Pulmonary vein
    (c) Vena cava   (d) Aorta

19. **Choose the correct statement**

    (a) Impulse travel from dendrite to the cell body.
    (b) Impulse travel from axon to cell body.
    (c) Impulse travel from dendrite to synapse.
    (d) Impulse travel from axon to dendrite.

20. **Thymus gland is present.**

    (a) Inside the thyroid
    (b) On the kidney
    (c) Above the trachea
    (d) Inside the adrenal gland

21. **Copper T-IUD are placed into.**

    (a) Vas deferens   (b) Uterus
    (c) Fallopian tube   (d) Cervix

22. **Plumule develops into**

    (a) Fruit   (b) Root
    (c) Seed   (d) Shoot

23. **CFC's not produced by.**

    (a) Refrigerators   (b) Fire extinguisher
    (c) Production of DDT   (d) Pressurized cans

24. **UNEP stands for**

    (a) United Nations Environment Policy
    (b) United Nations Energy Program
    (c) United Nations Energy pact
    (d) United Nations Environment Programme

25. **Boy gets X chromosome from.**

    (a) Mother
    (b) Father
    (c) Either mother or father
    (d) By division of zygote

26. **Binary fission does not occur in.**

    (a) Amoeba   (b) Leishmania
    (c) Spirogyra   (d) Bacteria

27. **Ganga Action Plan started in.**

    (a) 1984   (b) 1986
    (c) 1985   (d) 1987

28. **Eris water harvesting system used in.**

    (a) Bihar   (b) Tamil nadu
    (c) Odisha   (d) Kerala

29. **Coliform is.**

    (a) A group of bacteria   (b) A group of virus
    (c) A group of protozoa   (d) Helminthes

30. **Homo sapiens is more common to**

    (a) A chimpanzee   (b) A gorilla
    (c) A langur   (d) A monkey

31. **The value of $\dfrac{\cot 54^\circ}{\tan 36^\circ}$ +cot1°.cot2°cot3°……cot89°is.**

    (a) 0   (b) 1
    (c) 2   (d) -1

32. **If the points P (-10,7) lies on the line segment joining points A(2,4) and B (-6,8) then.**

    (a) AB = 3BP   (b) BP = $\dfrac{1}{2}$ AB

    (c) AP = $\dfrac{2}{4}$ BP   (d) BP = $\dfrac{1}{2}$ AB

33. A number is chosen at random from the numbers -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7. The probability that $|x| < 2$ is.

(a) $\dfrac{2}{11}$　　　　　　(b) $\dfrac{3}{10}$

(c) $\dfrac{5}{11}$　　　　　　(d) $\dfrac{3}{13}$

34. Sum of p terms of the series $\sqrt{2}, \sqrt{32}, \sqrt{98}, \sqrt{200}$ ....is.

(a) $p\left(\dfrac{p+1}{2}\right)$　　　　(b) $p\left(\dfrac{2p+1}{4}\right)$

(c) $p\left(\dfrac{3p-1}{\sqrt{2}}\right)$　　　　(d) $5p\left(\dfrac{2p+1}{4}\right)$

35. Value of $\sqrt{4+3\sqrt{4+3\sqrt{4+3\sqrt{4+...}}}}$

(a) 2　　　　　　(b) 3
(c) 22　　　　　　(d) 4

36. If a 6 m high tower placed on the top of a building throws a shadow of $2\sqrt{3}$ m long on the ground then the angle of elevation of the sun is.

(a) 60°　　　　　(b) 45°
(c) 75°　　　　　(d) 30°

37. If zeroes of the polynomial $f(x)=x^3-3ax^2+bx-c$ are in A.P., then.

(a) $3a^3=ab+c$　　　(b) $2b^3=ab+c$
(c) $2a^3=ab-c$　　　(d) $a^3=2ab-c$

38. If 5θ is an acute angle such that $\sin\theta = \cos5\theta$ then value of $\sqrt{3}\tan4\theta - 2\sin2\theta$ is.

(a) 0　　　　　　(b) 2
(c) -2　　　　　（d) 1

39. If the length of a rectangle is increased by 20% and its breadth is decreased by 20% what will the effect on its area?

(a) 5% Increase　　　(b) 6% Increase
(c) 4% Decrease　　　(d) No change

40. Value of $\dfrac{1+5+913.....+1397}{105}$ is

(a) 2330　　　　　(b) 2110
(c) 2230　　　　　(d) 3310

41. Let P be point on side AC of an equilateral triangle ABC such that BP is perpendicular to AC. Then $AB^2+BC^2+AC^2=?$

(a) $4BP^2$　　　　（b) $6BP^2$
(c) $3BP^2$　　　　(d) $5BP^2$

42. Value of $\dfrac{5-\sin\theta}{1-\sin\theta}$, If $\tan\theta = \dfrac{12}{5}$ is.

(a) 12　　　　　　(b) $\dfrac{1}{25}$
(c) 53　　　　　　(d) 25

43. Mean of 1,3,4,5,7,4 is k. The numbers 3,2,2,4,3,3, x have mean k-1 and the median y Then value of x+y is.

(a) 10　　　　　　(b) 7
(c) 12　　　　　　(d) 5

44. ABC is a right triangle right angled at B. and points D and E trisect BC. Then $3AC^2+5AD^2$

(a) $2AE^2$　　　　(b) $4AE^2$
(c) $6AE^2$　　　　(d) $8AE^2$

45. Two black colored cards of a deck of 52 cards were lost. One card is drawn from well shuffled deck of the remaining cards. Probability that the card will be a face card of red color is.......

(a) $\dfrac{1}{21}$　　　　　　(b) $\dfrac{3}{26}$

(c) $\dfrac{12}{15}$　　　　　　(d) $\dfrac{3}{25}$

46. A square room is surrounded by a verandah of width 4 meters. Area of the verandah is 160 sq meters. The area of the room is.

(a) 49 sq. meters　　　(b) 134 sq. meters
(c) 36 sq. meters　　　(d) 120 sq. meters

47. If α and β are zeroes of the polynomial $f(x)=px2+qx+r$ .The value of $\dfrac{1}{\alpha^2}+\dfrac{1}{\beta^2}$ is.......

(a) $\dfrac{q^2-2pr}{q^2}$　　　　(b) $\dfrac{q^2-4pr}{q^2}$

(c) $\dfrac{q^2-4pr}{q^2}$　　　　(d) $\dfrac{q^2-2pr}{q^2}$

48. The area of the triangle made by the lines x+y=0,x=-6 and y = 0 is.......

(a) 36sq.units　　　(b) 64sq.units
(c) 18sq.units　　　(d) 32sq.units

49. If $\tan\theta + \cot\theta = 2$ for some angle $\theta < 90°$. The value of $\tan^4\theta + \cot^4\theta$

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

50. If sin α and cos α are the roots of the equation $px^2+qx+r=0$, then.

(a) $q^2=p^2-4pr$　　　(b) $q^2=p^2+2pr$
(c) $q^2=p^2-2pr$　　　(d) q2=p2+4pr

Read the following passage and answer the question number 51-60

Tagore had a very healthy contempt for mere agitation politics which he likened to an engine which continuously whistle and throws out columns of smoke without ever moving. To the pilot of India's ship of destiny his advice was, "Fear not the waves of the sea, but mind the leaks in our own vessel." If we became a subject-people, it was not that the British were wicked but because we were weaklings, we had ceased to believe in ourselves, Instead of tapping the resources of our own power, we were content to pick rags from other peoples dust-bins. Unlike Gandhi. Tagore believed in the power and reassures of science, though he dreaded the prospect of man becoming a slave of machines instead of machines being the stave of man. In fact he dreaded every from of organized power whether social political or industrial which ignored human valuesand tended to stifle the personality of man. Though outside India Tagore interpreted the Indian philosophy of life in his own country he was the severest critic of its social institutions and religious practices which encouraged superstition and inequality.

51. Tagore compared agitational politics with:

(a) An ever moving engine eternally spewing smoke
(b) An eternally stationary engine
(c) A stationary engine that sometimes breathes smoke and fire.
(d) An engine that whistles lets out smoke but remains stationary

52. Tagore had a fear of:

(a) Organized social and political power
(b) Any power that defiled human values and stifled man's personality
(c) Power that was political and industrial
(d) Organized social and industrial power

53. According to Tagore his countrymen had become colonial subjects because:

(a) They were physically weak
(b) They did not believe in the resources of science
(c) They lacked self-belief
(d) The British were wicked.

54. By 'agitation politics' is meant:

(a) Politics that leads to industrial unrest
(b) Politics of a disruptive nature leading to unrest, political or otherwise
(c) None violent politics
(d) Agitated politics

55. By 'leaks in your own vessel' Tagore means:

(a) Inherent weakness
(b) Leaks in a ship
(c) A ship in distress
(d) Slavery to machines

56. Which of the following word is not a synonym of contempt?

(a) Antipathy
(b) Ridicule
(c) Neglect
(d) Approval

57. The phrase subject-peoplein the context of the passage means:

(a) Weak people
(b) Learners
(c) Slaves
(d) Victims

58. Which of the following word is an antonym of cease?

(a) Terminate
(b) Culminate
(c) End
(d) Begin

59. The word stifles means:

(a) Release
(b) Relegate
(c) Suffocate
(d) Both (a) and (b)

60. Which of the following is true:

(a) Tagore believed in the power and resources of science
(b) Tagore believed that man would become a slave of machines
(c) Gandhi did not believe in the power and resources of stance
(d) All of the above

61. Honesty is the best policy.

(a) Assertive Sentence
(b) Exclamatory Sentence
(c) Interrogative Sentence
(d) Optative Sentence

62. Close the door

(a) Assertive Sentence
(b) Exclamatory Sentence
(c) Interrogative Sentence
(d) Imperative Sentence

63. Why are you sounding so irritated?

(a) Assertive Sentence
(b) Exclamatory Sentence
(c) Interrogative Sentence
(d) Imperative Sentence

64. How beautifully she sings

(a) Assertive Sentence
(b) Exclamatory Sentence
(c) Interrogative Sentence
(d) Optative Sentence

65. How long are you working here?

(a) Have you been working here?
(b) You are working here?
(c) Were you working?
(d) No improvement

66. We spent an hour discussing <u>for his character.</u>

   (a) On his character   (b) His character
   (c) Of his character   (d) Upon his character

67. It is time for us to <u>left.</u>

   (a) Leave   (b) Have to leave
   (c) Will leave   (d) No improvement

68. There is <u>no more room</u> for you in this compartment

   (a) No more seat
   (b) No more space
   (c) No more accommodation
   (d) No Improvement

Change the narration (69-71)

69. He said. "What a fool Tom is!"

   (a) He exclaimed that he was a big fool
   (b) He exclaimed that Tom was a big fool
   (c) He wondered what kind of fool Tom was
   (d) He claimed that Tom was a big fool

70. Geeta said. "I did not do it deliberately."

   (a) Geeta said that I had not done it deliberately.
   (b) Geeta said that she had not done that deliberately.
   (c) Geeta said that she had not done this deliberately.
   (d) Geeta said that I have not done this deliberately.

71. "Mahendran would come again soon" I assured them.

   (a) I assured Mahendran would come again soon.
   (b) I assured them that Mahendran would come again soon.
   (c) I assured that Mahendran will be coming soon.
   (d) I assured them Mahendran would come again so.

Specify the tenses of question numbers 72-75

72. They will have been building the house.

   (a) Simple Future Tense
   (b) Future Perfect Tense
   (c) Future Perfect Continuous Tense
   (d) Present Perfect Continuous Tense

73. My father loves taking coffee every morning.

   (a) Simple Present Tense
   (b) Present Perfect Tense
   (c) Present Perfect Continuous Tense
   (d) None of the above

74. She had been writing a letter.

   (a) Simple Past Tense
   (b) Past Perfect Tense
   (c) Past Perfect Continuous
   (d) Present Perfect Tense

75. He interpreted the Indian Philosophy of life.

   (a) Past Perfect Tense
   (b) Past Perfect Continuous
   (c) Present Perfect Continuous
   (d) Simple Past Tense

76. Indian Space Research Organisation (ISRO) on 15th Feb 2017 has successfully launched the PSLV-37 rocket which put in to orbit a record how many satellites from seven countries?

   (a) 88   (b) 100
   (c) 104   (d) 110

77. When a gas is turned into a liquid the process is called.

   (a) Condensation   (b) Evaporation
   (c) Sublimation   (d) Deposition

78. Shagun is a web portal for

   (a) Sports
   (b) Defiance
   (c) Elementary Education
   (d) Inter-caste Marriage Encouragement

79. Mohiniattam dance originally developed in which state?

   (a) Tamil Nadu   (b) Karnataka
   (c) Andhra Pradesh   (d) Kerala

80. Saur Sujala Yojna launched in Chhattisgarh by PM Narendra Modi is related to.

   (a) Solar irrigation pumps
   (b) Solar cooker
   (c) Solar water heater
   (d) Electricity from solar power

81. Reserve Bank of India was nationalized in the year.

   (a) 1935   (b) 1942
   (c) 1947   (d) 1949

82. In India the Governor of the states are appointed by.

   (a) State Legislative Assembly
   (b) The Prime Minister
   (c) The president
   (d) Chief Minister of the state

83. A low-pressure area around the equator where the prevailing winds are calm is known as.

   (a) Arctic Circle
   (b) Doldrum
   (c) Tropic of Cancer
   (d) Tropic of Capricorn

84. Who among the following won the Arjuna Award in 2016 for cricket?

    (a) Virat Kohli　　　　(b) Ajinkya Rahane
    (c) R Ashwin　　　　(d) M S Dhoni

85. Who is regarded as "Maker of Modern India"?

    (a) Mahatma Gandhi　　(b) Ram Mohan Roy
    (c) Swami Vivekananda　(d) M G Ranade

86. Which of the following is not the same as watt?

    (a) Joule/second　　　(b) Amperes/volt

    (c) Amperes×volts　　(d) (Amperes)^2×ohm

87. The following instruments are available in a laboratory. Battery: Adjustable from 0 to 6 volt Resistors: 3Ω and 6Ω. Ammeters: A1 of range 0 to 5A: Least count 0.25A A2 of range 0-3A and least count 0.1A Voltmeter V1 of range 0-10V and least count 0.5V. Voltmeter V2 of range 0-5V and least count 0.1V. Out of the following pairs of instrument, which pair would be the best choice for carrying out the experiment to determine the equivalent resistance of the parallel combination of the two given resistors?

    (a) Ammeter A1 and Voltmeter V1
    (b) Ammeter A1¬and Voltmeter V2
    (c) Ammeter A2 and Voltmeter V1
    (d) Ammeter A2 and Voltmeter V2

88. A convex lens of focal length f produces a virtual image n time of the object. The distance of object is:

    (a) (n+1/n)f　　　　(b) (n-1/n)f
    (c) (n+1)f　　　　　(d) (n-1)f

89. In an experiment to study dependence of current on the potential difference across a given resistor, students kept the plug key in the circuit closed for time T1 and then open for time T2.The time T1 and T2 for students P, Q, R and S are given in the table below.
    The best choice of open and closed times is that of student:

Student	Closed time t1 seconds	Open timte2 seconds
P	30	60
Q	60	30
R	60	15
S	45	15

    (a) P　　　　　　　(b) Q
    (c) R　　　　　　　(d) S

90. Which type of mirror produces an image that is always erect, always the same height as the object, and always virtual?

    (a) Convex　　　　(b) Concave
    (c) Plane　　　　　(d) None of these

91. A mark at the bottom of a beaker is focused by a microscope. On pouring water up to a height of 16cm, the microscope is raised through 4cm to focus the mark again. Refractive index of water is:

    (a) 3/5　　　　　　(b) 5/4
    (c) 4/3　　　　　　(d) 4/5

92. A decrease in the aperture of the lens change:

    (a) The position of the image.
    (b) The size of the image
    (c) The intensity of the image
    (d) Both the position and size of the image

93. The reading shown by which of the voltmeter is more in the following circuit:

    (a) 88
    (b) 100
    (c) 104
    (d) 110

94. Fuse wire in the house-hold connections is in:

    (a) Series　　　　　(b) Parallel
    (c) Sometimes parallel　(d) Anyway

95. For the circuit shown in fig.1 and II, the ammeter reading would be:

    (a) 1 A in circuit 1 and 0 A in circuit II
    (b) 0 A in both circuit
    (c) 1 A in both circuit
    (d) 0 A in circuit 1 and 1 A in circuit II
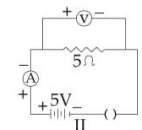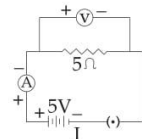
96. The function of rheostat is:

    (a) To control current in the circuit
    (b) To control charge in the circuit
    (c) To control voltage in the circuit
    (d) None of these

97. Which of the character of light remains unaltered on refraction?

    (a) Velocity
    (b) Frequency
    (c) Wavelength
    (d) Refractive index

98. The human eye can focus object at different distances by adjusting the focal length of the eye lens. This is due to.

    (a) Presbyopia
    (b) Accommodation
    (c) Near-sightedness
    (d) Far-sightedness

99. Magnetic field lines:

   (a) Form closed curves
   (b) Cannot intersect
   (c) Are crowded near poles
   (d) All of these

100. The principle of magnetic induction was given by…………

   (a) Michael Faraday
   (b) Galileo
   (c) Oersted
   (d) Ampere

Answer Key

1	2	3	4	5	6	7	8	9	10
c	d	b	b	c	a	c	b	d	b

11	12	13	14	15	16	17	18	19	20
c	d	a	b	b	a	a	b	d	c

21	22	23	24	25	26	27	28	29	30
b	d	c	d	a	b	b	b	a	a

31	32	33	34	35	36	37	38	39	40
c	a	d	c	d	c	c	b	c	a

41	42	43	44	45	46	47	48	49	50
b	c	b	d	d	c	d	c	a	b

51	52	53	54	55	56	57	58	59	60
a	a	c	b	a	d	a	d	c	a

61	62	63	64	65	66	67	68	69	70
a	d	c	b	a	b	a	c	b	b

71	72	73	74	75	76	77	78	79	80
b	c	d	c	d	c	a	c	d	a

81	82	83	84	85	86	87	88	89	90
d	b	b	b	b	b	c	d	b	c

91	92	93	94	95	96	97	98	99	100
c	d	a	a	a	a	b	b	d	a