Zilla Panchayat Chikkamagaluru

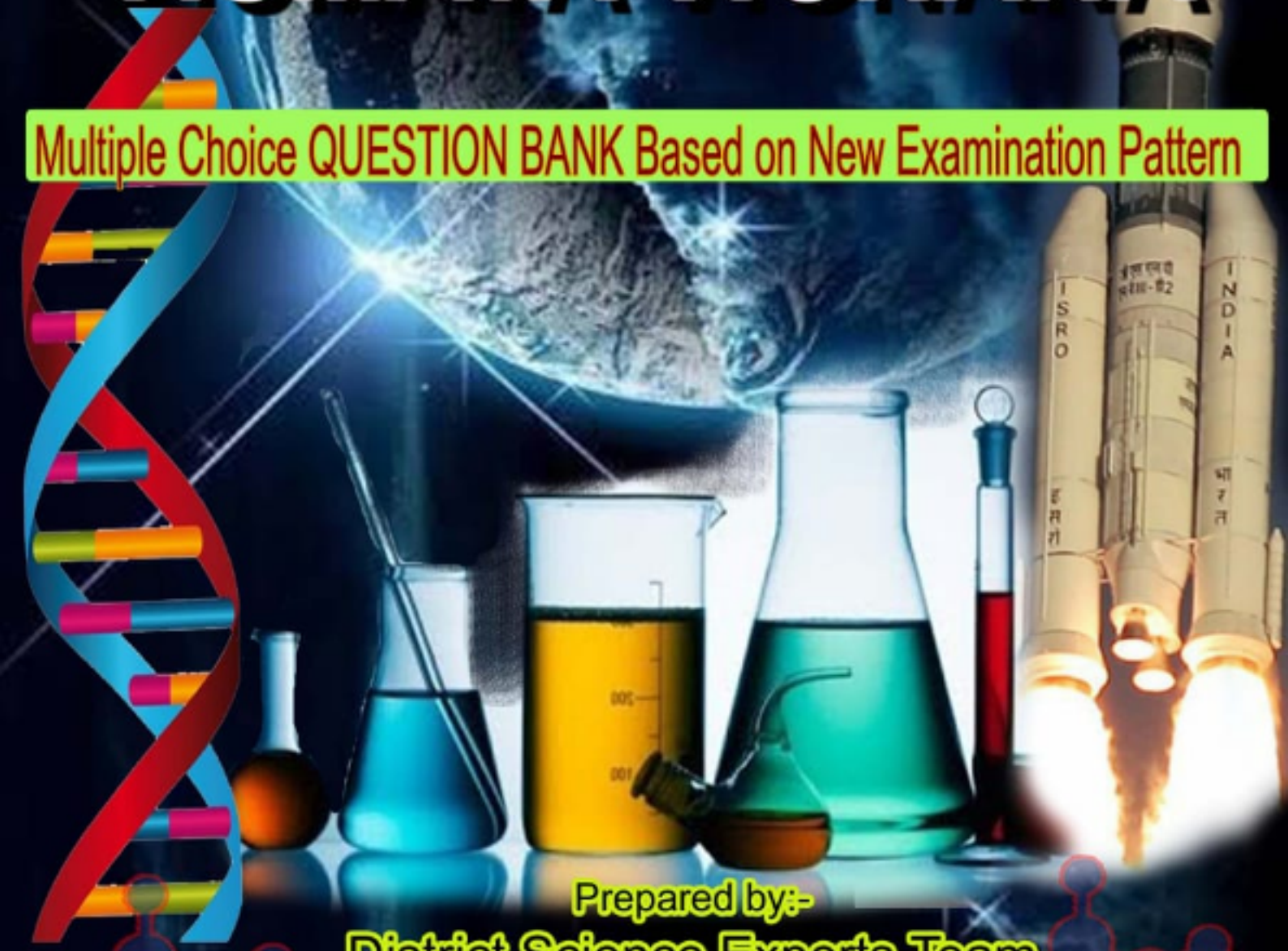
Office Of The Deupty Director
Department of Public Instruction Chikkamagaluru

SSLC

Reduced Syllabus For The Year 2020-21

VISMAYA VIGNANA

Multiple Choice QUESTION BANK Based on New Examination Pattern



Prepared by:-
District Science Experts Team
All the science teacher's of chikkamagaluru

Design by:Sathyaprakash R M Art Teacher

ನಹಿ ಜ್ಞಾನೇನ ಸದೃಶಂ

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಜಿಲ್ಲಾ ಪಂಚಾಯಿತಿ, ಉಪನಿರ್ದೇಶಕರು(ಆಡಳಿತ)ರವರ ಕಛೇರಿ, ಸಾರ್ವಜನಿಕ ಶಿಕ್ಷಣ ಇಲಾಖೆ, ಚಿಕ್ಕಮಗಳೂರು ಜಿಲ್ಲೆ

ಪ್ರೀತಿಯ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ, ಎಸ್.ಎಸ್. ಎಲ್. ಸಿ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಉತ್ತಮ ಫಲಿತಾಂಶ ಪಡೆಯಲು ನೂತನ ಪರೀಕ್ಷಾ ಪದ್ಧತಿಗೆ ಅನುಗುಣವಾಗಿ ರಚಿಸಲಾದ ಬಹು ಆಯ್ಕೆ ಮಾದರಿಯ ಪ್ರಶ್ನಾಕೋಠಿ ಕೈಪಿಡಿ

ಪ್ರೇರಣೆ

ಶ್ರೀ ಎಂ.ಆರ್. ಮಾರುತಿ

ನಿರ್ದೇಶಕರು, ಡಿ.ಎಸ್.ಇ.ಆರ್.ಟಿ ಬೆಂಗಳೂರು

ಪರಿಕಲ್ಪನೆ

ಶ್ರೀ ಬಿ.ವಿ. ಮಲ್ಲೇಶಪ್ಪ

ಉಪನಿರ್ದೇಶಕರು(ಆಡಳಿತ), ಸಾರ್ವಜನಿಕ ಶಿಕ್ಷಣ ಇಲಾಖೆ, ಚಿಕ್ಕಮಗಳೂರು

ಶ್ರೀಮತಿ ಪುಷ್ಪಲತಾ ಹೆಚ್.ಕೆ.

ಪ್ರಾಂಶುಪಾಲರು ಹಾಗೂ ಉಪನಿರ್ದೇಶಕರು(ಅಭಿವೃದ್ಧಿ), ಡಯಟ್ ಚಿಕ್ಕಮಗಳೂರು

ಮಾರ್ಗದರ್ಶನ

ಶ್ರೀ ಜಯಣ್ಣ

ಶಿಕ್ಷಣಾಧಿಕಾರಿಗಳು, ಉಪನಿರ್ದೇಶಕರ ಕಛೇರಿ, ಚಿಕ್ಕಮಗಳೂರು

ಸಹಕಾರ

ಕ್ಷೇತ್ರ ಶಿಕ್ಷಣಾಧಿಕಾರಿಗಳು, ಚಿಕ್ಕಮಗಳೂರು ಜಿಲ್ಲೆ
ಹಿರಿಯ ಉಪನ್ಯಾಸಕರು, ಡಯಟ್ ಚಿಕ್ಕಮಗಳೂರು
ಉಪಯೋಜನಾ ಸಮನ್ವಯಾಧಿಕಾರಿಗಳು ಎಸ್.ಎಸ್.ಕೆ ಚಿಕ್ಕಮಗಳೂರು
ವಿಷಯ ಪರಿವೀಕ್ಷಕರು ಉಪನಿರ್ದೇಶಕರ ಕಛೇರಿ , ಚಿಕ್ಕಮಗಳೂರು
ಸಹಾಯಕ ಯೋಜನಾ ಸಮನ್ವಯಾಧಿಕಾರಿಗಳು ಎಸ್.ಎಸ್.ಕೆ. ಚಿಕ್ಕಮಗಳೂರು
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ಬ್ಲಾಕ್‌ನ ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ ನೋಡಲ್ ಅಧಿಕಾರಿಗಳು, ಚಿಕ್ಕಮಗಳೂರು
ವಿಷಯ ಸಂಪನ್ಮೂಲ ಶಿಕ್ಷಕರ ತಂಡ ಚಿಕ್ಕಮಗಳೂರು.

RESOURCE FORMTION TEAM

SL NO	CHAPTER NAME	TEACHERS NAME	SCHOOL NAME
		PHYSICS	
1.	Electricity	Palaksha T S Pavithra M S	GJCHS Koppa GJCHS Koppa
2.	Magnetic Effects of Electric current	Kumaraswamy E Manasa K N	GHS S Bidare GHS Baskal
3.	Light-Reflection and Refraction	Madhu K M Krishnamurthy B S	GHS Garagadahalli GHS Somanahalli
4.	Sources of Energy	Gurumurthy Soumya	GHSThorehadlu KPS Begar
		CHEMISTRY	
5.	Acids Bases and Salts	G R Hegade Basavaraj D M	GHS Talihalla VVS Siravase
6.	Metals and Non-Metals	Ranganna M Tejomurthy K T	Shri Amrutheshwara High School Neralakere KPS Kalasapura
7.	Carbon and its compounds	Ashok Kumar S Krishna	GJCHS Sakharayapattana GHS Makonahalli
8.	Periodic Classification of Elements	Vani T Smitha S	GHS Hadikere GHS Sokke
		BIOLOGY	
9.	Life Processes	Venkatesh H N Prashantha S B	GJCHS Mallenahalli GHS Mallandur
10.	Control and Coordination	Madhumathi R Nanjundappa	LBS Chikkamagalur GJCHS Kadur
11.	Our Environment	Jayashree Sampath Kumar KS	GHS Balliganur GHS Jodithimmapura
12.	How do Organisms Reproduce?	Shobha K R Roopa	GHS Balagadi GHS Lokanathapura
13.	Heredity and Evolution	Lavanya B S Keshava S	GHS Daradahalli GHS Bettagere
14.	Sustainable Management of Natural Resources	Ganapati Tantri ShreeChetana	Jwala Malini Girls High School N.R. Pura GHS Gadigeshwara

ರಚನಾ ಸಹಕಾರ ಮತ್ತು ಪರಿಷ್ಕರಣೆ

ಶ್ರೀ ರಂಗಣ್ಣ ಎಮ್.

ಶ್ರೀ ಅಮೃತೇಶ್ವರ ಪ್ರೌಢಶಾಲೆ, ನೇರಲಕೆರೆ, ತರೀಕೆರೆ ತಾ||

ಶ್ರೀ ಪ್ರಶಾಂತ ಎಸ್.ಬಿ

ಸರ್ಕಾರಿ ಪ್ರೌಢ ಶಾಲೆ, ಮಲ್ಲಂದೂರು, ಚಿಕ್ಕಮಗಳೂರು ತಾ||

ಶ್ರೀ ಕೃಷ್ಣಮೂರ್ತಿ ಬಿ.ಎಸ್

ಸರ್ಕಾರಿ ಪ್ರೌಢ ಶಾಲೆ, ಸೋಮನಹಳ್ಳಿ, ಕಡೂರು ತಾ||

ಮುಖಪುಟ ವಿನ್ಯಾಸ

ಶ್ರೀ ಸತ್ಯಪ್ರಕಾಶ್ ಎಮ್, ಚಿತ್ರಕಲಾ ಶಿಕ್ಷಕರು

ಶ್ರೀಮತಿ ನಿಂಗಮ್ಮ ಬೊಮ್ಮಯ್ಯ ಸರ್ಕಾರಿ ಪ್ರೌಢಶಾಲೆ, ಬೆಟ್ಟಗೆರೆ, ಮೂಡಿಗೆರೆ ತಾ||

ವಿಶೇಷ ಮಾರ್ಗದರ್ಶಕರು

ಶ್ರೀಯುತ ಸತೀಶ್ ಎಸ್.ಆರ್

ವಿಷಯ ಪರಿವೀಕ್ಷಕರು, ಚಿಕ್ಕಮಗಳೂರು

ಶ್ರೀಮತಿ ಅರುಣಕುಮಾರಿ ಎನ್.ಎಸ್

ವಿಷಯ ಪರಿವೀಕ್ಷಕರು, ಚಿಕ್ಕಮಗಳೂರು

ಸಹಕಾರ

ಜಿಲ್ಲಾ ಮತ್ತು ತಾಲ್ಲೂಕು ಪ್ರೌಢಶಾಲಾ ಮುಖ್ಯ ಶಿಕ್ಷಕರ ಸಂಘ, ಚಿಕ್ಕಮಗಳೂರು ಜಿಲ್ಲೆ

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CONTENTS

PHYSICS

1. ELECTRICITY

1. The SI unit of electric current is

A. Ohm B. Ampere C. Volt D. Faraday

2. The rate of flow of electric charge is

A. Electric potential B. Electrical conductance

C. Electrical current D. Electrical resistance

3. The SI unit of resistance is

A. Ampere B. Volt C. Ohm D. Watt

4. A device used to change the resistance in an electric circuit is

A. ammeter B. rheostat

C. galvanometer D. voltmeter

5. What is the amount of electric charge that flows through the circuit when a current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes?

A. 30C B. 3.00C C. 300C D. 3000C

6. An instrument used to measure electric current in a circuit is

A. voltmeter B. ammeter C. Rheostat D. electrometer

7. The obstruction by a material of conductor to the easy passing of electric current is known as

A. conductance B. resistance C. power D. friction

8. The number of electrons constituting one coulomb charge is

A. 6 X 18^{10} electrons B. 6 X 10^{18} electrons

C. 1.6 X 10^{18} electrons D. 1.06 X 10^{18} electron

9. The resistance of a conductor depends upon the following factors

A. length of the conductor B. cross section area of the conductor

C. material of the conductor D. all the above

10. A piece of wire of resistance R is cut in to five equal parts. These parts are then connected in parallel. If the equivalent resistance of this combination is $R^{I,}$ then the ratio R/R^{I} is

A. $\frac{1}{25}$ B. 1/5 C. 5 D. 25

11. The main device that helps to maintain a potential difference across a conductor

A. ammeter B. voltmeter C. battery D. multimeter

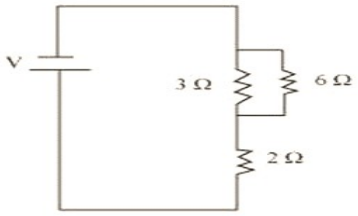
12. How much work is done in moving a charge of 2C across two points having a potential difference 12?

A. 24J` B. 6J C. 20J D. 16J

13. The relation between potential difference and current is given by

A. V α I_2 B. V α 1/I C. V_2α I D. V α I

14. Which of the given statement is not true regarding the electrical set up for the verification of Ohm's law
    A. the voltmeter is connected in parallel with the known resistance
    B. the ammeter is connected in series circuit
    C. the rheostat can only increase the resistance in electrical circuit
    D. the single key is used to switch on/off the electrical circuit
15. The relation between potential difference (V) and current(I) was discovered by
    A. Newton B. Ohm C. Ampere D. Volta
16. In parallel combination of electrical appliances total electric power
    A. increases B. decreases C. remain same D. none of these
17. The potential difference between the terminals of an electric heater is 60V when it draws a current of 4A from the source. What current will the heater draw if the potential difference is increased to 120V
    A. 6 A B. 8 A C. 10 A D. 4 A
18. What is the equivalent resistance of the circuit obtained when the resistors are connected as shown in the circuit diagram?
    A. 2 Ω
    B. 6 Ω
    C. 1 Ω
    D. 4 Ω



19. When a 4 Ω resistor is connected across the terminals of 12V battery, the number of Coulombs passing through the resistor per second is
    A. 0.3 B. 3 C. 4 D. 14
20. The electric bulbs are usually filled with following gases for the prolonged life of the filament are
    A. Chlorine and Argon B. Oxygen and Nitrogen
    C. Argon and Argon D. Argon and Nitrogen
21. What is the unit of resistivity?
    A. Ω/s B. Ω/A C. Ω m D. Ωm/s
22. Alloys are used commonly in electrical heating devices like toasters, electric iron etc. because,
    A. alloys are good conductors B. alloys do not oxidize/burn readily
    C. alloys are bad conductors D. alloys absorb heat
23. The symbolic representation used to show rheostat in an electric circuit is
    A. --( )-- B.  C.  D. 
24. Which of the following terms does not represent electrical power in a circuit?
    A. I^2R B. IR^2 C. VI D. V^2/R

25. An electric bulb is rated 220V and 100W. When it is operated on 110V the power in a circuit?

A. 100W B. 75W C. 50W D. 25W

26. Two conducting wires of the same material and equal lengths and equal diameters are first connected in series and then parallel in a circuit across the same potential difference. The ratio of heat produced in series and parallel combination would be

A. 1:2 B. 2:1 C. 1:4 D. 4:1

27. How much work is done in moving a charge of 2C across two points having a potential difference 12V?

A. 20J B. 24J C. 30J D. 50J

28. Mathematical expression of Ohm's law

A. P= VI B. W= Qt C. H= I^2RT D. V= IR

29. Device used to change the resistance in the circuit

A. Rheostat B. Ammeter C. Galvanometer D. Voltmeter

30. 1KWh means

A. 3.6X10 $^{-6}$J B. 3.6 X10 ^{6}J C. 3.6J D. 3. 6 X10 ^{2}J

31. An electric bulb is connected to a 220V generator. The current is 0.5A what is the power of the bulb?

A.440W B. 110W C. 55W D. 0.0023W

32. The series arrangement not used for domestic circuits because

A. It won't look beautiful

B. Current won't flow through it

C. If one component fails, the circuit is broken and none of the component works.

D. If one component fails, the other component works.

33. A lamp draws a current of 0.5Awhen it is connected to a 60V source what is the resistance of the lamp?

A.100 Ω B. 110 Ω C. 120 Ω D. 180 Ω

34. Calculate the current in a circuit if 500C of charge passes through it in 10 minutes?

A.500A B. 50A C. 83A D. 0.83A

35. 100J of heat is produced each second in a 4 Ω resistor. The potential difference across the resistor will be

A.30V B. 10V C. 20V D. 25V

36. The commercial unit of electrical energy is-------

A. Kilojoule B. Joule C. Kilowatt Hour D. Watt-hour

37. The resistivity does not change if -----

A. The material is changed

B. The temperature is changed

C. The shape of the resistor is changed

D. Both material and temperature are changed.

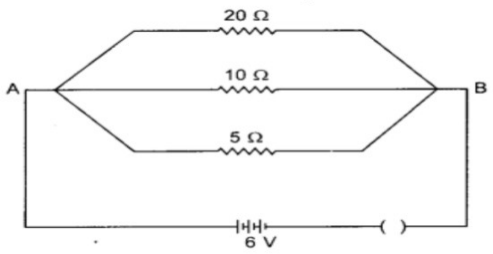
38. Calculate the current flows through the 10 Ω resistor in the following circuit?

A.1.2A

B. 0.6A

C. 0.2 A

D.2.0A



39. A battery of 10V carries 20000C of charge through a resistance of 20 Ω. The work done in 10 seconds is-------

A.2X10 ^{3}J B. 2X10 ^{5}J C. 2X10 ^{4}J D. 2X10 ^{2} J

40. When one-unit electric charge moves from one point to another point in an electric circuit then the amount of work done in Joules is known as

A. Electricity B. Electrical resistance

C. Electrical conductivity D. Potential difference

41. Coulomb is the S.I unit of----------

A. Electrical charges B. Electricity

C. Potential difference D. Electrical resistance

42. When electric current is passed electrons moves from -----

A. High potential to low potential B. Low potential to high potential

C. In the direction of electric current D. Against the direction of current

43. The heating element of an electric iron is made up of-------

A. Copper B. Nichrome

C. Aluminium D. Iron

44. An electric heater is rated at 2KW. Electrical energy costs ₹ 4/KWh. What is the cost of using the heater for 3 hours?

A. ₹ 12 B. ₹ 24 C. ₹ 36 D. ₹ 48

45. An electric Fuse works on the ---

A. Chemical effect of current B. Magnetic effect of current

C. Lighting effect of current D. Heating effect of current

46. Observe below table, match the right pair.

a) Electricity	i) Volt
b) Electric resistance	ii) Coulomb
c) Potential difference	iii) Ampere
d) electric charge	iv) Ohm

A. a-ii, b-i, c-iii, d-iv B. a- iv, b-i, c- iii, d- ii

C. a-iii, b-iv, c-i, d-ii D. a-iii, b-i, c-iv, d-ii

47. A Fuse wire repeatedly gets burnt when used with a good heater. It is advised to use a fuse wire of------

A. More length B. Less radius

C. More radius D. Less length

48. Identify the wrong pair in the below table:

A.  Eclectric cell

B.  resistor

C.  Open switch

D.  Electric bulb

49. The element used exclusively for filaments of incandescent lamps-------

A. Copper B. Gold C. Silver D. Tungsten

50. Identify the correct relation:

A. H = IRt B. H = IR2t C. H = V2Rt D. $H = I^2 Rt$

Key Answer

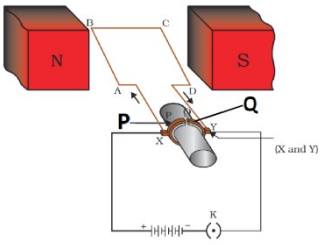
Q.NO.	OPTION	ANSWER
1	B	Ampere
2	C	Electrical current
3	C	Ohm
4	B	rheostat
5	C	300C
6	B	ammeter
7	B	resistance
8	B	$6 X 10^{18}$ electrons
9	D	all the above
10	D	25
11	C	battery
12	A	24J
13	D	V α I
14	C	the rheostat can only increase the resistance in electrical circuit
15	B	Ohm
16	C	remain same
17	B	8 A
18	D	4 Ω
19	B	3
20	D	Argon and Nitrogen
21	C	Ω m

22	B	alloys do not oxidize/burn readily
23	D	
24	B	IR^2
25	D	25W
26	C	1:4
27	B	24J
28	D	V=IR
29	A	Rheostat
30	B	$3.6X10^6J$
31	B	110 W
32	C	If one component fails, the circuit is broken and none of the component works.
33	C	120 Ω
34	D	0.83A
35	C	20V
36	C	Kilowatt Hour
37	C	The shape of the resistor is changed
38	B	0.6A
39	B	$2X10^5J$
40	D	Potential difference
41	A	Electrical charges
42	B	Low potential to high potential
43	B	Nichrome
44	B	₹ 24
45	D	Heating effect of current
46	C	a-iii, b-iv, c-i, d-ii
47	C	More radius
48	C	 Open switch
49	D	Tungsten
50	D	$H = I^2 Rt$

2. MAGNETIC EFFECTS OF ELECTRIC CURRENT

1. Which of the following is not a property of magnetic field lines?
   A. Magnetic field lines are denser near poles
   B. Magnetic field lines are closed loops
   C. Magnetic field lines intersect each other
   D. Magnetic field lines emerge from north pole and merge at the south pole.
2. What will happen if a soft iron bar is placed inside the solenoid?
   A. The bar will be electrocuted resulting in short circuit.
   B. The bar will be magnetized as long as there is current in the circuit.
   C. The bar will be magnetized permanently.
   D. The bar will not be affected by any means.
3. In Fleming's left-hand rule first finger indicates the direction of the,
   A. Movement of conductor B. Magnetic field
   C. Electric current D. None of the above
4. In electric motor, soft iron insulated with coil is called as,
   A. Solenoid B. Magnetic Field C. Dynamo D. Armature
5. In Faraday's experiment, when the coil and the magnet are both kept stationary.
   A. More electricity flows in the coil B. Less electricity flows in the coil
   C. Electricity does not flow in the coil D. All of the above are right
6. The function of the electric generator is, it
   A. Reverses the direction of current
   B. Converts electrical energy into mechanical energy
   C. Detects the presents of electric current in the circuit
   D. Converts mechanical energy into electrical energy
7. At the time of short circuit, the current in the circuit
   A. Reduces substantially B. Varies
   C. Increases heavily D. Vary continuously
8. The device which converts electric energy into mechanical energy,
   A. Electric motor B. Electric generator
   C. Ammeter D. Dynamo
9. The potential difference between live wire and neutral wire in our country is,
   A. 150 V B. 220 C. 200 V D. 330 V
10. DC generator works on the principle of,
   A. Magnetic field of electric current B. Electromagnetic induction
   C. Fleming's left-hand rule D. Chemical effect of electric current
11. The most important safety method used for protecting home appliances from overloading is by,
   A. Use of earthing wire B. Use of fuse
   C. Connecting all appliances in series D. Use of electric meter

12. The main advantage of AC power transmission over DC power transmission to long distances is,
    A. AC transmit without much loss of energy
    B. Less insulation problem
    C. Less problem of instability
    D. Does not require conducting wires
13. A device that reverses the direction of flow of current through a circuit is called as,
    A. Commutator B. Motor C. Both A & B D. None of the above
14. In this diagram P & Q indicates,
    A. Slip rings
    B. Armature
    C. Brushes
    D. Split rings



15. The rule which indicates induced electric current,
    A. Fleming's right hand rule B. Right hand thumb rule
    C. Faraday's Law D. Fleming's lefthand rule
16. Which of these are commutators,
    A. Split rings B. Brushes C. Magnets D. Armature
17. When we decide the direction in the compass needle it shows the direction of,
    A. North-South B. East-North C. South-West D. East-West
18. If we bring north pole of one bar magnet near north pole of another bar magnet,
    A. Repels B. Attracts C. Does not respond D. None of the above
19. Any two field lines are found to,
    A. Cross each other B. Will separates
    C. Do not cross each other D. Do not separates
20. Magnetic field lines moves from which pole to which pole,
    A. East-North B. West-North C. South-West D. North-South
21. Magnetic field inside the solenoid is,
    A. More B. Less C. Uniform D. All of the above
22. In right hand thumb rule, thumb points towards the direction of current then what does the fingers wrap around the conductor indicates,
    A. Magnetic field lines B. Induced electric current
    C. Flow of electricity D. None of the above
23. The first scientist to find out magnetic field will produce electric current is,
    A. Isaac Newton B. J C Bose C. Albert Einstein D. Michael Faraday
24. A coil of many circular turns of insulated copper wire wrapped in the shape of a cylinder is called as,
    A. Magnetic field B. Motor C. Dynamo D. Solenoid

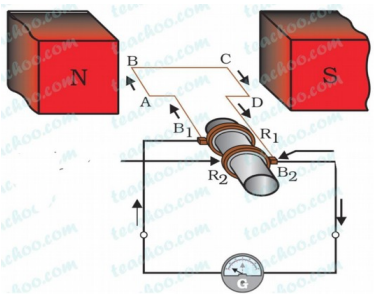
25. If rectangular copper coil is rotated in magnetic field, the direction of induced electric current changes after,

A. 2 rotations B. 1 rotation C. Half rotation D. 1/4th rotation

26. The frequency of the alternating current produced in India,

A. 50Hertz B. 100Hertz C. 25Hertz D. 75Hertz

27. In this diagram B1 & B2 indicates,



A. Brushes

B. Armature

C. Rings

D. None of the above

28. Which of the following correctly describes the magnetic field near a long straight wire

A. The field consists of straight lines perpendicular to the wire

B. The field consists of straight lines parallel to the wire

C. Both A and B

D. The field consists of concentric circles centred on the wire

29. The phenomenon of electromagnetic induction is,

A. The process of charging a body

B. The process of generating magnetic field due to a current passing through a coil

C. Producing induced current in a coil due to relative motion between a magnet and the coil

D. None of the above

30. The essential difference between the AC & DC generator is that,

A. DC generator will generate a higher voltage

B. AC generator will generate a higher voltage

C. AC generator has an electromagnet while a DC generator has permanent magnet,

D. AC generator has slip rings while the DC generator as a commutator

31. An instrument that can detect the presence of a current in a circuit,

A. Galvanometer B. Dynamo C. Ammeter D. Motor

32. The magnetic field lines inside the solenoid are in the form of,

A. Straight lines B. Parallel straight lines

C. Circular loops D. All of the above

33. A core of soft iron wrapped around with a coil of insulated copper wire is called as,

A. Electromagnet B. Solenoid C. Ammeter D. Galvanometer

34. The shape of the magnetic field lines produced by a current carrying conductor is,

A. Straight lines B. Concentric circles

C. Parallel straight lines D. None of the above

35. As we move away from a current carrying conductor the magnetic field,

A. Decreases B. Remains stable C. Both A & B D. Increases

Key Answers

1. C. Magnetic field lines intersect each other
2. B. The bar will be magnetized as long as there is current in the circuit.
3. A. Movement of conductor
4. D. Armature
5. C. Electricity does not flow in the coil
6. D. Converts mechanical energy into electrical energy
7. C. Increases heavily
8. A. Electric motor
9. B. 220
10. B. Electromagnetic induction
11. B. Use of fuse
12. A. AC transmit without much loss of energy
13. A. Commutator
14. D. Split rings
15. A. Fleming's right-hand rule
16. A. Split rings
17. A. North-South
18. A. Repels
19. C. Do not cross each other
20. D. North-South
21. C. Uniform
22. A. Magnetic field lines
23. D. Michael Faraday
24. D. Solenoid
25. C. Half rotation
26. A. 50Hertz
27. A. Brushes
28. D. The field consists of concentric circles centred on the wire
29. C. Producing induced current in a coil due to relative motion between a magnet and the coil
30. D. AC generator has slip rings while the DC generator as a commutator
31. A. Galvanometer
32. B. Parallel straight lines
33. B. Parallel straight lines
34. B. Concentric circles
35. A. Decreases

3. Light, Reflection and Refraction

1. When light travels from one medium to another medium, it changes its velocity This phenomenon is called

   A. Reflection of light B. Absorption of light

   C. Refraction of light D. Scattering of light

2. S.I unit of power of lens is

   A. Ampere B. Dioptre C. Coulomb D. ohm

3. This formula is $\frac{1}{f}=\frac{1}{v}-\frac{1}{u}$

   A. mirror formula B. Lens formula

   C. used to find out power of lens D. magnification

4. Snell`s law related to

   A. light refraction B. light reflection

   C. scattering of light D. light absorption

5. In which of the following medium the velocity of light is maximum

   A. glass B. water C. diamond D. kerosene

6. The velocity of light in vacuum is

   A. $3x10^{8}\,ms^{-1}$ B. $3x10^{8}\,ms^{-2}$

   C. $3x10^{9}ms^{-2}$ D. $3x10^{9}ms^{-1}$

7. Find the focal length of a lens of power -2.5D.

   A. -2.5m B. -0.40m

   C. -2.0m D. -2.25m

8. In which medium light travels more.

Material Medium	Refractive Index
Air	1.003
Ice	1.31
Kerosene	1.44
Diamond	2.42

   A. diamond (Refr Index -2.42) B. air (Refr Index - 1.0003)

   C. Ice (Refr Index-1.31) D. kerosene (Refr Index -1.44)

9. What is Focal length?

   A. The distance between principal focus of the lens and the optical center

   B. The distance between principal focus of the lens and the aperture

   C. The distance between center of curvature and the optical centre

   D. The distance between center of curvature and the aperture

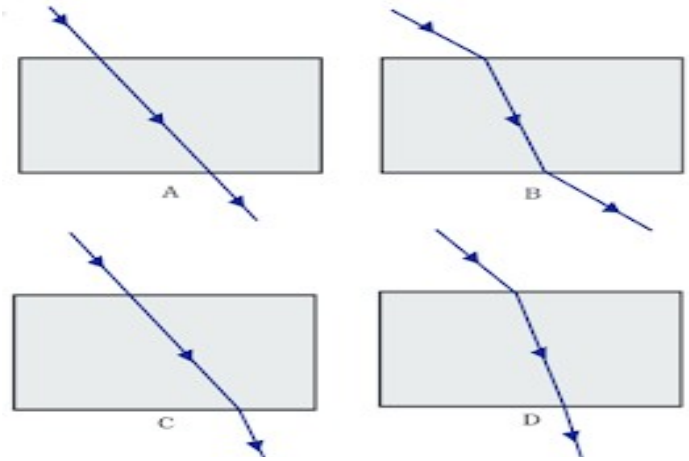
10. Where should be object placed to obtained an image from the convex lens as same size of the object?

    A. at infinity B. beyond $2F_1$ C. at $2F_1$ D. between F_1 and $2F_1$

11. Identify the correct pair

A. u- distance of the image
B. v- distance of the object
C. f- Principal focus
D. R- Radius of curvature

12. The path of a ray of light coming from air passing through a rectangular glass slab are shown as A,B, C and D in below Figure Which one of them is correct?



A. A
B. B
C. C
D. D

13. A pencil partially immersed in water, it looks displaces ...the reason for this is

A. light reflection
B. light absorption
C. light refraction
D. scattering of light

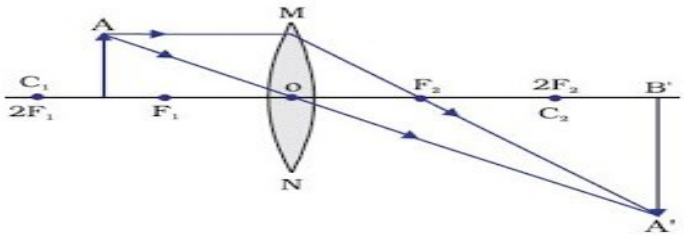
14. A lens which always formed a virtual and erect image is

A. Convex lens
B. Plano convex lens
C. Concave lens
D. Plano concave lens

15. A convex lens has radius of curvature is 50cm.find out its power ?

A. +2D B. -2D C. -4D D. +4D

16. With the help of this ray diagram mention the position of the image, size of the image and nature of the image



A. At infinity, Enlarged, Real and Inverted image
B. Beyond $2F_2$, Enlarged, Real and Inverted image
C. At $2F_2$, Enlarged, Virtual and erect image
D. At infinity, Enlarged, Virtual and erect image

17. A concave lens has focal length 15cm. At what distance should the object from the lens be placed so that it forms an image at 20cm from the lens?

A. -12cm B. 12cm C. -60cm D. 60cm

18. A lens has radius of curvature 20cm. What is its focal length?

A. 10cm B. 20cm C. 5cm D. 40cm

19..The centre of lens is called--

A. Centre of curvature B. Optical centre

C. Lens axis D. Principle focus

20. Which one of the following formula is used to find the magnification of the lens?

A. $\frac{1}{f}=\frac{1}{v}-\frac{1}{u}$ B. $P=\frac{1}{f}$ C. $m=\frac{v}{u}$ D. **R= 2f**

21. When light ray travels from rarer medium to denser medium ,the rays are

A. in straight line B. bent towards normal

C. bent away from the normal D. reflecting back

22. The formula related to Snell's law of refraction

A. $\mu=\frac{\sin i}{\sin r}$ B. $\mu=\frac{\sin r}{\sin i}$ C. $\mu=\frac{i}{r}$ D. $\sin i=\frac{\mu}{\sin r}$

23. The material medium having highest refractive index is

A. Air B. Kerosene C. Crystal salt D. Diamond

24. If the power of the lens is -0.25,then its focal length is

A. -4 cm B.-400 cm C. -4m D. 40 cm

25. Which one of the following materials can not be used to make a lens?

A. Water B. Glass C. Plastic D. Clay

26. Which of the following lenses would you prefer to use while reading small letters found in a dictionary?

A. A convex lens of focal length 50 cm

B. A concave lens of focal length of 50 cm

C. A convex lens of focal length 5 cm

D. A concave lens of focal length 5 cm

27. A doctor prescribes a corrective lens of power -0.5D o a person.The focal length of lens and the type is

A. -2m and concave lens B. +2m and concave lens

C. -2m and convex lens D. +2m and convex lens

28. The nature and size of the image formed when the object is kept between the principal focus ' F_1' and optical centre `O' of a concave lens is

A. real, inverted and small size B. virtual inverted and small size

C. real, inverted and enlarged D. virtual, erect and enlarged

29. The diameter of the circular outline of a spherical lens is

A. aperture B. optical centre C. principal axis D. centre of curvature

30. Object distance and image distance of a lens are -60 cm and-20 cm respectively, then the magnification of lens will be

A. +0.33 B. +4.0 C. +3.0 D. -0.33

KEY ANSWER

1. C. Refraction of light
2. B. Dioptre
3. B. Lens formula
4. A. light refraction
5. B. water
6. A. $3x10^{8}\,ms^{-1}$
7. B. -0.40m
8. B. air (Refr Index - 1.0003)
9. A. The distance b/w principal focus of the lens and the optical center
10. C. at $2F_1$
11. D. R- Radius of curvature
12. B. B
13. C. light refraction
14. C. concave lens
15. D. +4D
16. B. Beyond $2F_2$, Enlarged,Real and Inverted image
17. C. -60cm
18. A. 10cm
19. B. Optical centre
20. C. $m=\frac{v}{u}$
21. B. bent towards normal
22. A. $\mu=\frac{\sin i}{\sin r}$
23. D. Diamond
24. D. -4m
25. D. Clay
26. C. A convex lens of focal length 5 cm
27. B. +2m and concave lens
28. D. virtual erect and enlarged
29. A. aperture
30. A. +0.33

14. Sources of Energy

1. The role of glass sheet in the solar cooker
   A. reflects the solar radiation into the box B. creates green house effect
   C. absorbs solar radiation D. acts as insulator.
2. A conventional source of energy in the following is
   A. Coal B. Solar energy C. nuclear energy D. tidal energy
3. The energy conversion in thermal power plant is
   A. electric energy into mechanical energy
   B. mechanical energy into electrical energy
   C. nuclear energy into electrical energy
   D. heat energy into electrical energy
4. A solar water heater cannot be used to get hot water on
   A. a sunny day B. a cloudy day
   C. a hot day D. a windy day
5. Which of the following is not an example of a bio-mass energy source?
   A. wood B. gobar- gas
   C. nuclear energy D. coal
6. The following is not ultimately derived from the solar energy
   A. geothermal energy B. wind energy C. nuclear energy D. bio mass
7. 26. The main constituent of biogas is
   A. Methane B. carbon dioxide
   C. hydrogen D. hydrogen sulphide
8. The most common source of heat in ancient times is
   A. wood B. coal C. petroleum D. natural gas
9. Which is the ultimate sources of energy
   A. Water B. Sun C. uranium D. Fossil fuel
10. The required speed of turbines to generated electricity from wind energy is
   A. 15 Km/h B. 12 Km/h C. 10 Km/h D. 20 Km/h
11. The mirror best suited for use in a solar cooker is
   A. Plane mirror B. Concave mirror
   C. Convex mirror D. Plano-convex mirror
12. The rise of sea water during high tide is caused by the gravitational pull of the
   A. Sun B. Moon C. earth D. Mars
13. Which element is used in solar cells?
   A. Carbon B. Silicon
   C. Phosphorous D. Sulphur
14. Fuel used in thermal power plant
   A. water B. uranium C. solar radiation D. fossil fuel

15. Which one of the following form of energy leads to least environmental pollution in the process of its harnessing and utilization?

A. Nuclear energy
B. Thermal energy
C. Solar energy
D. Geothermal energy

16. In hydro power plant

A. Potential energy possessed by stored water is converted into electricity
B. Kinetic energy possessed by stored water is converted into potential energy
C. Electricity is extracted from water
D. Water is converted into steam to produce electricity

17. The need to use non-conventional sources of energy is

A. To prevent population explosion
B. For the protection of non-conventional energy
C. To the solution of the energy crisis
D. To create an energy crisis

18. Types of energy production from oceans

A Tidal energy and wave energy
B. Tidal energy and Nuclear energy
C. Wave energy and Nuclear energy
D. Ocean thermal energy and wind energy

19. In solar cooker, concave mirror and black paint used for this reason.

A. Convergence of solar radiation and to absorb less heat
B. Divergence of radiation and to absorb more heat
C. To look beautiful
D. convergence of radiation and to absorb more heat

20. Geo thermal energy is energy derived from

A. Hot spots under the earth
B. Cold spots above the earth
C. hot spots above the earth
D. cold spots under the earth

21. The major problem in harnessing nuclear energy is how to

A. Split nuclei
B. Sustain the reaction
C. Dispose of spent fuel safety
D. convert nuclear energy into electrical energy

22. The type of energy conversion in solar cell

A. Solar energy into electric energy
B. Thermal energy into electrical energy
C. Light energy into heat energy
D. Electrical energy into light energy

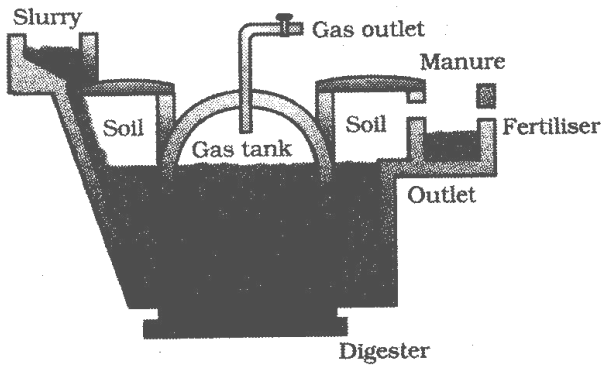
23. Ocean thermal energy is due to
    A. Energy stored by waves in the ocean
    B. Temperature difference at different levels in the ocean
    C. Pressure difference at different levels in the ocean
    D. Tides arising out in the ocean
24. Ocean energy thermal conversion plants can operate if the temperature difference between the water at the surface and water at depth up to 2 Km is
    A. 10 K B. 20 K C. 30 K D. 40 K
25. A non-renewable source of energy
    A. takes very long time to deplete B. will get depleted in short duration of time
    C. is pollution free D. can be regenerated easily.
26. It is one of the disadvantages of Solar cell
    A. requires little maintenance
    B. can be set up even in remote village.
    C. has low efficiency
    D. works satisfactorily without the use of focusing device.
27. Which of the given is not a characteristic of a good fuel_
    A. Less calorific value B. Easy to store and transport
    C. Less residue after burning D. easy accessible
28. In which of the following part anaerobic respiration takes place

A. Slurry

B. Digester

C. Gas outlet

D. Out let



KEY ANSWERS:

1. – B	2. – A	3. - D	4. - B
5. – C	6. – C	7. – A	8. - A
9. – B	10. – A	11. – B	12. - B
13. – B	14. – D	15. – C	16. - A
17. – C	18. – A	19. – D	20. - A
21. – C	22. – A	23. – B	24. - B
25. – B	26. – C	27. – A	28. - B

5. Acids Bases and Salts

1. Which of the following is used for treating indigestion.

A. Antibiotic B. Analgesic C. Antacid D. Antiseptic

2. Alkalis are

A. Acids, which are soluble in water B. Salts, which are soluble in water

C. Bases, which are soluble in water D. All of these

3. Name of the gas released when sodium hydrogen carbonate reacts with hydrochloric acid.

A. Hydrogen B. Carbon dioxide C. Nitrogen D. Sulphur

4. Which of the following compound is formed when zinc reacts with hydrochloric acid

A. Zinc chloride B. Zinc sulphate C. Zinc carbonate D. Zinc hydroxide

5. Dissolution of strong acid in water is

A. Neutralizes B. Isothermic C. Exothermic D. Endothermic

6. pH Value of Acid rain is

A. Below 7.2 B. Below 6.1 C. Below 5.6 D. Below 6.6

7. Tooth enamel is made up of

A. Calcium carbonate B. Calcium phosphate

C. Calcium oxide D. Calcium chloride

8. Nettle sting is a natural source of which acid

A. Methanoic acid B. Lactic acid C. Citric acid D. Tartaric acid

9. What is formed when Zinc reacts with sodium hydroxide

A. Zinc hydroxide and sodium B. Sodium zincate and hydrogen gas

C. Zinc oxide and hydrogen gas D. Sodium zincate and water

10. What happens when a solution of an acid mixed with base in test tube.

i) Temperature increases ii) Temperature decreases

iii) Remains same iv) salt formation takes place

A. (i) and (iv) B. (I) and (iii)

C. (ii) and (iii) D. (ii) and (iv)

11. What is the pH range of our body

A. 7.0 – 7.8 B. 7.2 – 8.0 C. 7.0 – 8.4 D. 7.2 – 8.4

12. An ant's sting can be treated with

A. Methanoic acid B. Acetic acid C. Baking soda D. Caustic soda

13. 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

14. As the P^H value of a neutral solution increases

A. Basic property decreases and number of OH^- ions increases

B. Acidic property increases and number of H^+ ions increases

C. Basic property increases and number of OH^- ions increases

D. Acidic property decreases and number of H^+ ions increases

15. The acid produced in our stomach is -------

A. Nitric acid B. Hydrochloric acid

C. Sulphuric acid D. Sulphur dioxide

16. A solution turns red litmus to blue, its pH is likely to be

A. 1 B. 4 C. 5 D. 10

17. The solution reacts with crushed egg shells to give a gas that turns lime water milky the solution contains

A. NaCl B. HCl C. LiCl D. KCl

18. 5mL of a solution of NaOH is found to be completely neutralize by 4mL of HCl. If we take 10mL of NaOH, the amount of HCl solution required to neutralize it will be,

A. 10ml B. 12ml C. 8ml D.16ml

19. Which of the following is an olfactory indicator

A. Red cabbage B. Litmus

C. Turmeric D. Clove

20. A strong acid is

A. Completely gets ionized in water B. Do not get ionized in water

C. Partially gets ionized in water D. All of the these

21. Which of the following will turn red litmus to blue?

A. Vinegar B. Lemon juice C. Soft drinks D. Baking soda solution

22. What happens when carbon dioxide gas reacts with sodium hydroxide?

A. Carbon monoxide is formed

B. Sodium carbonate is formed

C. Carbon dioxide does not react with sodium hydroxide

D. None of the these

23. Find out the correct arrangement of the following in the increasing order of their pH value.

A. NaOH sol^n < blood < lemon juice B. blood < lemon juice < NaOH sol^n

C. lemon juice < blood < NaOH sol^n D. blood < NaOH sol^n < lemon juice

24. Which of the following solution having highest hydrogen ion concentration is one with

A. pH 2.5 B. pH 1.8 C. pH 7 D. pH 10

25. The P^H of three solutions X , Y and Z 6, 4 and 8 respectively which of the following is the correct order of acidic strength?

A. X > Y > Z B. Z > Y > X C. Y > X > Z D. Z > X > Y

26. Formers neutralize the effect of acidity of the soil by adding

A. Gypsum B. Slaked lime C. Caustic soda D. Baking soda

27. Sodium carbonate is basic salt because it is a salt of

A. Strong acid and strong base B. Weak acid and weak base

C. Strong acid and weak base D. Weak acid and strong base

28. Range of pH scale is

A. -1 to 15 B. 0 to 15 C. 0 to 14 D. 7 to 14

29. The type of indicator, methyl orange and phenolphthalein are

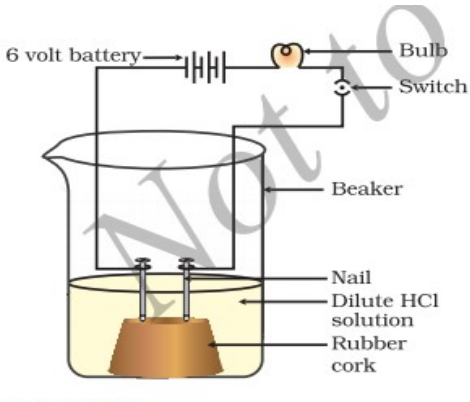
A. Synthetic indicator B. Natural indicator

C. Olfactory indicator D. All of the above

30. Common character of metal oxide is

A. Basic B. Acidic C. Neutral D. None of the above

31. The apparatus in the figure was setup to demonstrate electrical conductivity.



i) Bulb will not glow because electrolyte is not acid

ii) Bulb will glow because HCl is a strong acid and furnishes ions for conduction

iii) Bulb will not glow because circuit is incomplete

iv) Bulb will not glow as it depends upon the type of electrolytic solution

A. (i) & (iii) B. (ii) & (iv)
C. (ii) only D. (iv) only

32. The gas liberated when dilute sulphuric acid reacts with zinc granules

A. Sulphur dioxide B. carbon dioxide

C. Nitrogen D. Hydrogen

33. $NaOH + HCl \longrightarrow NaCl + H_2O$. This chemical reaction is an example of

A. Neutralization reaction

B. Substitution reaction

C. Addition reaction

D. Combustion reaction

34. As the pH value of a solution decreases

A. Number of OH^- ions increases

B. Number of H^+ ions increases

C. Number of H^+ ions decreases

D. Equal number of OH^- and H^+ ions

35. The substance that changes the colour of red litmus paper in to blue colour

A. Sodium chloride solution B. Lemon juice

C. Pure water D. Sodium hydroxide solution

36. When a carbon di oxide reacts with calcium hydroxide, salt and water are produced. Then the nature of carbon dioxide is

A. Acidic B. Metallic

C. Both acidic and basic D. Basic

KEY ANSWER

SL NO	ANS	SL NO	ANS	SL NO	ANS
1	C	13	B	25	C
2	C	14	C	26	B
3	B	15	B	27	D
4	A	16	D	28	C
5	C	17	B	29	A
6	C	18	C	30	A
7	B	19	D	31	C
8	A	20	A	32	D
9	B	21	D	33	A
10	A	22	B	34	B
11	A	23	C	35	D
12	C	24	B	36	A

5. Metals and Non Metals

1. The metal which is liquid at room temperature among the following is
   A. Magnesium B. Copper
   C. Mercury D. Sodium
2. Metals form --- type of ions by donating electrons.
   A. Negative ions B. Positive ions
   C. Both positive and negative ions D. Neutral
3. The compound formed when metals reacts with oxygen
   A. Acidic oxide B. Basic oxide
   C. Neutral oxide D. None of these
4. Examples for amphoteric oxides among the following are
   A. Sodium oxide and Magnesium oxide
   B. Aluminium oxide and Zinc oxide
   C. Copper oxide and Magnesium oxide
   D. Ferrous oxide and sodium oxide
5. This metal can be easily cut with a knife
   A. Sodium B. Gold
   C. Silver D. Zink
6. The good heat conducting metals among the following are
   A. Silver and Copper B. Copper and Iron
   C. Lead and Mercury D. Zinc and Iron
7. Comparatively poor heat conducting metals among the following are
   A. Silver and Copper
   B. Copper and Iron
   C. Lead and Mercury
   D. Zinc and Iron
8. Suitable method to avoid rusting of Iron thawa among following is
   A. Greasing B. Painting
   C. Galvanising D. All of these
9. An element reacts with oxygen and forms a compound which is having high melting point. This compound further dissolves in water. Then the element may be
   A. Calcium B. Carbon
   C. Silicon D. Iron
10. 1 gm of gold can be drawn into a thin wire of length 2 km. The property of metal we can notice here is
   A. Ductility B. Malleability
   C. Sonority D. Luster
11. School bells are made of metals. The property of metal we can notice here is
   A. Ductility B. Malleability
   C. Luster D. Sonority

12. Aluminium reacts with air (Oxygen) to form Aluminium oxide. The correct equation showing the above reaction among the following is

A. $2Al + O_2 \rightarrow 2AlO$ B. $2Al + 3O_2 \rightarrow 2AlO_3$
C. $4Al + 3O_2 \rightarrow 2Al_2O_3$ D. $4Al + 2O_2 \rightarrow 2AlO_2$

13. The metals which melt when we put them on our palm are

A. Sodium and Potassium B. Gallium and Cesium

C. Mercury and Magnesium D. Zinc and Tin

14. One among the following is the hardest substance in nature and also it is allotrope of Carbon.

A. Graphite B. Charcoal

C. Coke D. Diamond

15. One among the following is a good conductor though it is a non-metal

A. Sulphur B. Iodine

C. Coke D. Graphite

16. The metals like Aluminium, Iron and Zinc form their respective oxides and release hydrogen only in the following situations.

A. When reacts with hot water

B. When reacts with cold water

C. When reacts with steam

D. All of the above

17. When metal reacts with Nitric acid, Hydrogen gas is not released because,

A. Nitric acid is a strong oxidizer

B. It Oxidises the Hydrogen released to form water

C. It reduces itself to any one of the oxides of Nitrogen

D. All the above

18. When these metals react even with cold water, reaction is violent, exothermic and evolved Hydrogen immediately catches fire. Those metals are

A. Zinc and Magnesium B. Sodium and Potassium

C. Aluminum and Copper D. Gold and Silver

19. The correct option with respect to reactivity series of metals among the following

A. K > Na > Ca > Mg B. Na > K > Ca > Mg
C. Ca > Na > K > Mg D. Mg > Ca > Na > K

20. The correct descending order of the metals Zinc, Aluminium, Iron and Magnesium with respect their reactivity among the following is

A. Zinc > Iron > Aluminium > Magnesium

B. Magnesium > Aluminium > Zinc > Iron

C. Aluminium > Zinc > Iron> Magnesium

D. Iron> Magnesium > Aluminum > Zinc

21. Metal used in galvanization to protect steel and iron from rust

A. Zinc B. Copper

C. Iodine D. Nickel

22. The process in which carbonate ore is converted to oxide in the presence of limited air and high temperature

A. Roasting B. Electrolytic refining

C. Calcination D. Electroplating

23. The process in which sulphide ore is converted to oxide in the presence of excess air and high temperature

A. Roasting B. Calcination

C. Electrolytic refining D. Electroplating

24. The metal which is present in the alloys of bronze and brass

A. Iron B. Copper

C. Lead D. Nickel

25. Metals which are obtained in free form

A. Gold, Silver and Platinum

B. Sodium and Magnesium

C. Copper, Nickel and Lithium

D. Aluminium

26. Impurities such as sand and soil which are present in the ore mined from the earth are called

A. Gangue B. Waste

C. Minerals D. Impurities

27. Ionic compounds conduct electricity when they are in

A. Solid state B. Molten state

C. Kerosene D. Gaseous state

28. In the process of electrolytic refining the pure metal is deposited at

A. Anode B. Cathode

C. Bottom D. Electrolyte

29. Iron is never used in its pure state this is because

A. Iron quickly converts into other element

B. Pure iron is very soft and stretches easily when hot

C. It is difficult to collect pure iron

D. All of the above

30. Ionic compounds are hard and have high melting and boiling point because

A. They have impurities

B. They obtained in the form of rock

C. Considerable amount of energy is required to break the strong inter ionic attraction

D. They have weak ionic bond

31. If one of the metal in an alloy is mercury then the alloy is called

A. Cinnabar B. Azurite

C. Anode mud D. Amalgam

32. A bond which is formed by the transfer of electrons from a metal to a non metal is known as

A. Covalent bond

B. Ionic bond

C. Metallic bond

D. Hydrogen bond

33. The ore of mercury is

A. Hematite B. Cinnabar

C. Limonite D. Siderite

34. Pure metal is obtained by the process of

A. Calcination B. Roasting

C. Electrolytic refining D. Displacement

35. Atomic number of an element X is 11 and the atomic number of an element Y is 17. The type of bond formed between these two elements

A. Hydrogen bond B. Covalent bond

C. Ionic bond D. Metallic bond

36. Which of the following pairs will give displacement reaction?

A. NaCl solution and Copper metal B. $MgCl_2$ solution and aluminium metal

C. $FeSO_4$ solution and Silver metal D. $AgNO_3$ solution and Copper metal.

37. Food cans are coated with Tin not with Zinc because

A. Zinc is costlier than tin B. Zinc has a higher melting point than tin.

C. Zinc is more reactive than tin. D. Zinc is less reactive than tin.

38. Silver articles become black when they exposed to air because

A. It reacts with Sulphur in the air

B. It reacts with moist carbon dioxide in the air

C. Reacts with oxygen in the air

D. None of the above

39. The substance used in the Thermit process for joining railway tracks

A. Aluminium with iron (III) oxide B. Aluminium with iron (II) oxide

C. Aluminium with Copper (III) oxide D. Aluminium with copper (II) oxide

40. When copper reacts with moist Carbon dioxide in the air, it gets green coat on it. This is because of the formation of

A. Copper oxide B. Copper carbonate

C. Copper bicarbonate D. Copper sulphide

KEY ANSWER

1	C.	Mercury
2	B.	Positive ions
3	B.	Basic oxide
4	B.	Aluminium oxide and Zinc oxide
5	A.	Sodium
6	A.	Silver and Copper
7	C.	Lead and Mercury

8	D.	All of these
9	A.	Calcium
10	A.	Ductility
11	D.	Sonority
12	C.	$4Al + 3O_2 \rightarrow 2Al_2O_3$
13	B.	Gallium and Cesium
14	D.	Diamond
15	D.	Graphite
16	C.	When reacts with steam
17	D.	All the above
18	B.	Sodium and Potassium
19	A.	K > Na > Ca > Mg
20	B.	Magnesium > Aluminium > Zinc > Iron
21	A.	Zinc
22	C.	Calcination
23	A.	Roasting
24	B.	Copper
25	A.	Gold, Silver and Platinum
26	A.	Gangue
27	B.	Molten state
28	B.	Cathode
29	B.	Pure iron is very soft and stretches easily when hot
30	C.	Considerable amount of energy is required to break the strong inter ionic attraction
31	D.	Amalgam
32	B.	Ionic bond
33	B.	Cinnabar
34	C.	Roasting
35	C.	Ionic bond
36	D.	$AgNO_3$ solution and Copper metal
37	C.	Zinc is more reactive than tin
38	A.	It reacts with Sulphur in the air
39	A.	Aluminium with iron (III) oxide
40	B.	Copper carbonate

7. CARBON & ITS COMPOUNDS

1. Carbon forms strong bonds because of

A] Its electronic configuration B] Small size of carbon atom

C] Formation of ions D] Formation of covalent bond

2. Formation long chain of carbon by bonding with other carbon atoms is called

A] Catenation B]Isomerism C] Homology D] Allotropism

3. Ethane with the molecular formula **C_2H_6** has

A] 6 Covalent bonds B] 7 Covalent bonds

C] 8 Covalent bonds D] 9 Covalent bonds

4. Which of the following molecular formula is not correct

A] Propane C_3H_8 B]Butane C_4H_{10}

C]Pentane C_5H_{10} D]Hexane C_6H_{14}

5. Compounds having same molecular formula but different structures are called

A] Isomers B]Homologous series C] Allotropes D] Esters

6. Which of the following contains only single bond

A] Alkenes B] Alkynes

C] Aromatic hydrocarbons D]Alkanes

7. In **CH_3OH** which functional group is present

A] Alcohol B] Aldehyde C] Ketone D] Carboxylic acid

8. Which of the following is the functional group of aldehyde?

A] – OH B] – CHO C] -CO D] -COOH

9. Which functional group is present in butanone?

A] – OH B] – CHO C] -CO D] -COOH

10. Which heteroatom is responsible for alcohol, aldehyde and carboxylic acid functional group?

A] O B] C C] H D] Cl

11. Members of homologous series differs by

A] CH_3 B]CH_2 C] CH_4 D] C_2H_4

12. General formula of alkanes is

A] C_nH_{2n+2} B]C_nH_{2n-2} C] C_nH_n D] $C_{2n}H_{2n}$

13. Which of the following structures are formed when soap molecules react with dirt?

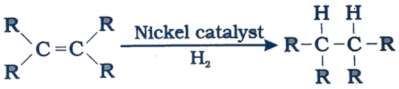
A]Miscells B]Emulsion C] Esters D] Sodium salts

14. Which of the following is example for substitution reaction of hydrocarbons?

A] $CH_4 + O_2$ --------> $CO_2 + H_2O$ B] $CH_4 + Cl_2$ ----------> $CH_3Cl + HCl$

Acidic K2Cr2O7

C] CH_3CH_2OH ----------> CH_3COOH D]



15. Process of converting unsaturated vegetable oils into saturated fats is called

A] Substitution reaction B] Oxidation C] Hydrogenation D] Esterification

16. Sodium/Potassium salts of long chain carboxylic acid is called

A] Detergent B] Soap C] Sodium carbonate D] Potassium carbonate

17. Which of the following statement is wrong?

A] Carbon compounds are bad conductors of electricity

B] Carbon compounds are covalent compounds

C] Boiling and melting points of covalent compounds is low

D] Valency of carbon is 6

18. $\mathbf{C^{4-}}$ anion is not formed because

A] It is difficult for the nucleus with 6 protons to hold on to 10 electrons

B] More amount of energy is required to remove four electrons

C] It is difficult for the nucleus with 10 protons to hold on to 4 electrons

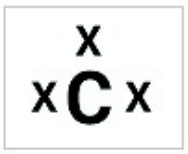
D] More amount of energy is required to remove two electrons

19. Bond formed by sharing of electrons between two atoms is

A] Covalent bond B] Ionic bond C] Hydrogen bond D] Metallic bond

20. Identify the wrong electron dot structure among the following

a] 

b] 

c] 

d] 

21. Which element forms maximum number of hydrocarbons?

A] Carbon B] Silicon C] Hydrogen D] Oxygen

22. While cooking, if the bottom of the vessel is getting blackened on the outside, it means that,

A] The food is not cooked completely

B] The fuel is not burning completely

C] The fuel is wet

D] The fuel is burning completely

23. Compounds containing only hydrogen and oxygen are called ____

A] Carbohydrates B] Hydrocarbons C] Hydrates D] Carbonates

24.The group that confers special properties to the compounds is called

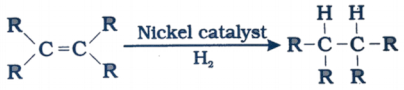
A] Functional groups B] Enzymes C] Catalyst D] Hormones

25. Identify this compound **CH_3COCH_3**

A] Propanoic acid B] Propanol C] Propanal D] Propanone

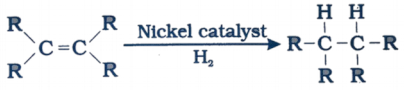
26 .Which of the following is an example for combustion reaction of hydrocarbons?

A] $CH_4 + O_2$ --------> $CO_2 + H_2O$ B] $CH_4 + Cl_2$ ----------> $CH_3Cl + HCl$

C] CH_3CH_2OH ---------- (Acidic $K_2Cr_2O_7$) ----------> CH_3COOH D] 

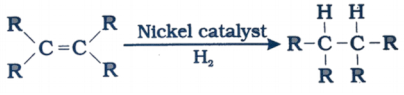
27. Which of the following is an example for addition reaction of hydrocarbons?

A] $CH_4 + O_2$ --------> $CO_2 + H_2O$ B] $CH_4 + Cl_2$ ----------> $CH_3Cl + HCl$

C] CH_3CH_2OH ---------- (Acidic $K_2Cr_2O_7$) ----------> CH_3COOH D] 

28. Which of the following is an example for oxidation reaction of hydrocarbons?

A] $CH_4 + O_2$ --------> $CO_2 + H_2O$ B] $CH_4 + Cl_2$ ----------> $CH_3Cl + HCl$

C] CH_3CH_2OH ---------- (Acidic $K_2Cr_2O_7$) ----------> CH_3COOH D] 

29.Conversion of unsaturated hydrocarbons into saturated hydrocarbons by the addition of hydrogen in presence of nickel catalyst is called which type of reaction?

A] Substitution reaction B] Oxidation reaction

C] Addition reaction D] Esterification

30. A reaction in which one type of atom/group of atoms taking the place of another is called

A] Substitution reaction B] Oxidation reaction

C] Addition reaction D] Esterification

31. In a soap molecule ionic end and hydrocarbon end reacts with which of the following respectively?

A] Water and dirt B] Dirt and water C] Cloth and water D] Water and cloth

32. Which of the following structures are formed when soap molecules reacts with dirt?

A] Micelles B] Emulsion C] Esters D] Sodium salt

33. Which of the following ions reduce the functionality of soap?

A] Ca & Mg B]Na & Ca C] Na & Mg D] Na & Cl

34.Sodium salts of sulphonic acid are called

A] Detergent B] Soap

C] Sodium carbonate D] Potassium carbonate

35. Molecular formula of cyclohexane is

A] C_6H_6 B]C_6H_{12} C] C_6H_{14} D] C_6H_{10}

36. Which of the following is an example for unsaturated hydrocarbon?

A] C_6H_{14} B]C_4H_{10} C] C_2H_4 D] C_5H_{12}

37. Detergent is good cleansing agent compared to soap because

A] Cleans in hard water also B] Detergent is biodegradable

C] Soap pollutes water and soil D] Soap is prepared from oil

38. Reason for incomplete combustion of hydrocarbons is

A] Because of presence of single bonds

B] Containing more hydrogen atoms

C] Shortage of oxygen

D] Containing more carbon atoms

39. A substance which changes rate of reaction without undergoing any change itself is called

A] Hormone B] Oxidising agent C] Reducing agent D] Catalyst

40. Which of the following statement is wrong?

A] Saturated hydrocarbons give clean flame

B] Unsaturated hydrocarbon produce black smoke with yellow flame

C] Limitation oxygen is responsible for incomplete combustion of hydrocarbons

D] Butane burns with sooty flame

Key answers							
Q.No	Answer	Q.No	Answer	Q.No	Answer	Q.No	Answer
1	B	11	B	21	A	31	A
2	A	12	A	22	B	32	A
3	B	13	A	23	B	33	A
4	C	14	B	24	A	34	A
5	A	15	C	25	D	35	B
6	D	16	B	26	A	36	C
7	A	17	D	27	D	37	A
8	B	18	A	28	C	38	C
9	C	19	A	29	C	39	D
10	A	20	b	30	A	40	D

8. PERIODIC CLASSIFICATION OF ELEMENTS

1.An atom of an element has the electronic configuration 2,8,2. In the periodic table ,it belongs to the group

A. 2^{nd} group B. 8^{th} group C. 10^{th} group D. 12^{th} group

2.A metal 'M' is in the first group of the periodic table. What will be the formula of its oxide?

A. MO B. M_2O C. M_2O_2 D. MO_2

3.Which of the following set of elements is written in the increasing order of their metallic character

A. Na Li K B. C O N

C. Mg Al Si D. Be Mg Ca

4. 18^{th} group elements of the modern periodic table usually

A. form ionic bond with other elements

B. form covalent bond with other elements

C. form hydrogen bond

D. do not form chemical bond with other elements.

5. The elements that belong to the same period among the following are

Element	A	B	C
Atomic number	2	10	5

A. A and B B. B and C C. C and A D. A, B and C

6.The atomic number of an element is 19. In the periodic table, this element belongs to the period

A. 4 B. 3 C. 5 D. 6

7. In modern periodic table as we move along a period, the atomic size of the elements

A. decreases B. does not change

C. increases D. first increases and then decreases

8. The atomic number of an element is 12. Total number of shells that present in this atom is

A. 2 B. 3 C. 4 D. 5

9.The atomic numbers of the elements A, B, C, D and E are 7, 10, 12, 4 and 19 respectively. Which of the element among the following is a noble gas

A. B B. D C. E D. C

10. The element which has zero valency among the following is

A. Carbon B. Argon C. Silicon D. Sodium

11. The atomic number of Chlorine is 17. The number of valence electrons that present in this element is

A. 7 B. 5 C. 10 D. 1

12.The elements of the second period in the periodic table are given below. The element with more electropositivity among the following is

Li Be B C N O F

A. Be B. Li C. N D. F

13. Fluorine (atomic number=9) and Chlorine (atomic number=17) belong to the group 17 of the periodic table. Which of these will be less electronegative ?

A. Fluorine B. Both Fluorine and Chlorine C. Chlorine B. Non of these

14.If an element 'X' is placed in group 14, what will be the formula of its chloride?

A. XCl_4 B. XCl_2 C. XCl D. XCl_3

15.Lithium, Sodium and potassium form a Dobereiner's triad. The atomic mass of Lithium and Potassium are 7 and 39 respectively. Then atomic mass of Sodium is

A. 25 B. 30 C. 23 D. 46

16. An example of metalloid among the following is

A. Beryllium B. Sodium C. Sulphur D. Arsenic

17. In modern periodic table as we move along a period , the metallic nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

18. In modern periodic table as we move down a group, the metallic nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

19. In modern periodic table as we move along a period, electropositive nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

20. In modern periodic table as we move down a group, electropositive nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

21. In modern periodic table as we move along a period, electronegative nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

22. In modern periodic table as we move down a group, electronegative nature of the elements

A. decreases B. does not change

C. increases C. first increases and then decreases

23.The atomic number of Phosphorous is 15. In the periodic table, it belongs to the block

A. 's' block B. 'p' block C. 'd' block D. 'f' block

24. The arrangement of elements in the modern periodic table based on their

A. increasing atomic mass in the period

B. increasing atomic number in the horizontal rows

C. increasing atomic number in the vertical columns

D. increasing atomic mass in the group

25. The position of some elements in the periodic table is given in the following table. The element that has non-metallic nature with valency 3 is

GROUP PERIOD	14	15	16	17	18
2	C		O	F	Ne
3	Si	P	S		Ar

A. P B. Si C. S D. Ne

26. The element which has a total of 3 shells with 4 electrons in its valence shell among the following is

A. Carbon B. Nitrogen C. Silicon D. Sodium

27. Four elements A, B , C and D have atomic numbers 16,11, 3 and 14 respectively. The correct arrangement of these elements in the decreasing order of their atomic size is

A. C>A>D>B B. D>C>A>B C. B>D>A>C D. A>C>B>D

28.The following table shows four elements P, Q, R and S along with their electronic configuration. The elements which belong to the same period are

Elements	P	Q	R	S
Electronic Configuration	2, 8, 2	2,6	2, 8, 8,1	2,8,6

A. Elements P and S B. Elements P and R

C. Elements R and S D. Elements Q and S

29. Noble gases are kept in the separate group in the modern periodic table . Because

A. valency of these elements is usually zero.

B. they do not form chemical bond easily with other elements.

C. they have completely filled shells or octet structure

D. All of the above

30. The main limitation of Mendeleve's periodic table is

A. there is no fixed position for Hydrogen in the periodic table

B. there is a separate group for inert gases

C. arrangement of elements based on the increasing order of their atomic numbers

D. there is fixed position for isotopes

KEY ANSWERS

1. A. 2nd group

2. B. M_2O

3. D. Be Mg Ca

4. D. do not form chemical bond with other elements.

5. B. B and C

6. A. 4

7. A. decreases

8. B. 3

9. A. B

10. B. Argon

11. A. 7

12. B. Li

13. C. Chlorine

14. A. XCl_4

15. C.23

16. D.Arsenic

17. A. decreases

18. C. increases

19. A. decreases

20. C. increases

21. C. increases

22. A. decreases

23. B. ‘p’ block

24. B. increasing atomic number in the horizontal rows

25. A. P

26. C. Silicon

27. C. B>D>A>C

28. A. Elements P and S

29. D. All of the above

30. A. there is no fixed position for Hydrogen in the periodic table

BIOLOGY

9. Life Processes

1. A blood vessel which bring the blood from entire body to the heart

A. Arteries. B. Capillaries C . Veins. D. Aorta

2. The part of the heart which prevent the mixing of oxygenated blood and deoxygenated blood

A. Septum. B. Arteries. C. Valves D. Veins

3. These structures prevents flowing back of blood from ventricles to atrium

A. Dividing wall B. Valves C. Arteries D. Capillaries

4. The tissue which transports water and minerals absorbed from the soil to the leaves

A. Xylem. B. Phloem. C. Companion cells D. Parenchyma

5. The tissue which transport products of the photosynthesis from leaves to the other parts of the plant

A. Xylem. B. Phloem. C. Companion cells. D. Parenchyma

6. The process by which blood goes twice through the heart during each cycle in vertebrates.

A. Heartbeat. B. Transportation C. Blood pressure D. Double circulation

7 . Function of lymph is

A. transports carbon dioxide

B. transports oxygen

C. transports waste materials

D. carries digested and absorbed fat from intestine

8. Function of platelets in the blood

A. transports oxygen B. immunity C. clots the blood D. Transports fat

9. In plants which one of these exhibits translocation

A. Xylem. B. Stomata C. Phloem. D. Roots

10. Structural and functional unit of kidney is

A. Neuron B. Nephron C. Renal artery. D. Renal vein

11. Substances which are filtered from the blood in Bowman's capsule

A. Nitrogenous wastes such as urea and uric acid

B. Glucose and amino acids only

C. Salts and water only

D. All of the above

12. The statement which is wrong about the strategies used by plants for Excretion

A. Stores resins and gums in old xylem

B. Loose some parts such as leaves

C. Get rid of excess water by translocation

D. Excretes waste materials through roots in the soil

13. Advantage of 4 chambered heart in human being is

A. Avoid mixing of oxygenated blood and deoxygenated blood

B. Maintain constant temperature

C. It Works with more efficiency

D. Above all

14. The right way for blood become deoxygenated blood to oxygenated blood

A. Right ventricle → pulmonary artery → lungs

B. Right ventricle → pulmonary vein → lungs

C. Left ventricle → pulmonary artery → lungs

D. lungs → pulmonary vein → left atrium

15. The blood vessels which bring blood to kidney for filtration

A. Renal veins B. Renal arteries C. Coronary artery D. Pulmonary artery

16. The chamber in the heart that pumps deoxygenated blood and blood vessel which carries blood into the lungs are

A. Left atrium & Aorta

B. Right ventricle & Pulmonary vein

C. Right atrium & Vena-cava from upper body

D. Right ventricle & Pulmonary artery

17. Correct choice for arteries found in the human circulatory system.

A. These have a thick elastic wall and the blood flows under high pressure.

B. These walls are thin and blood flows under low pressure.

C. These walls are thin and blood flows under high pressure.

D. These have a thick elastic wall and the blood flows under low pressure.

18. Transportation of photosynthetic products which are soluble in phloem tissue is known as

A. Transpiration B. Translocation C. Respiration D. Evaporation

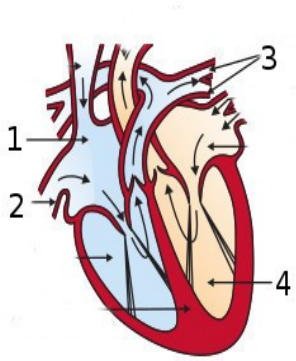
19. The arrangement of the correct parts to the numbers given in the figure of human heart below

A. 1- Left atrium, 2-vena cava from lower body, 3 -pulmonary vein, 4-Right ventricle

B. 1- Right atrium, 2-vena cava from upper body, 3-Aorta , 4-right ventricle

C.1-Right atrium, 2-vena cava from lower body, 3-Pulmonary arteries, 4-left ventricle

D. 1-Left atrium, 2-vena cava from upper body, 3-pulmonary vein, 4-left ventricle



20.In most of plants the wastes are stored in this organelle of the cell .s

A. Mitochondria B. Chloroplast

C. Ribosomes D. Vacuole

21. A colourless fluid having less protein content, that is similar to plasma in blood is

A. Tissue fluid B. White blood cells

C. Red blood cells D. Platelets

22. The blood vessels which brings deoxygenated blood from heart to lungs are .

A. vena cava from lower body B. Pulmonary artery

C. pulmonary vein D. Aorta

23.The blood vessels which bring oxygenated blood from lungs to left atrium are

A. vena cava from lower body B. Pulmonary artery

C. pulmonary vein D. Aorta

24.The blood vessel which transport oxygenated blood from heart to all parts of body is

A. Aorta B. Pulmonary artery

C. pulmonary vein D. vena cava from lower body

25. The transport of soluble products of Photosynthesis in Phloem tissue is called

A. Transpiration B. Photo synthesis

C. Diffusion D. Translocation

26. The part in which, soluble nitrogenous waste is filter out from the blood

A. Heart B. Lungs

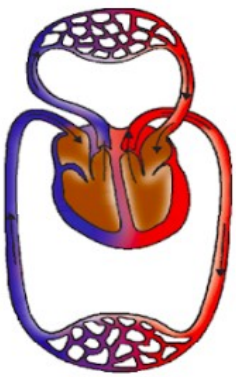
C. Kidneys D. Ureters

27. In these type of animal the blood pass through heart only once in each blood circulation .

A. Fishes B. Reptiles

C. Birds D. Human beings

28. Observe the following type of blood circulation, based on this identify wrong statement given below.



A. This is useful for animals who need high energy

B. This type of circulation helps maintain body temperature

C. The body temperature of these animals depends on the temperature of the atmosphere

D. Do not mix oxygen rich blood and deoxygenated blood

29. Major function of the kidney in humans

A. Nutrition B. Respiration C. Excretion D. Transportation

30. Incorrect statement related to xylem is

A. It has tracheids and tube

B. Transport of water from root to all part of plant through it

C. It is one of vascular tissue

D. Photosynthetic product transport through it

Life process			
Answer Key			
1	C. Veins.	2	A. Septum.
3	B. Valves	4	A. Xylem.
5	B. Phloem.	6	D. Double circulation
7	D. carries digested and absorbed fat from intestine.	8	C. clots the blood
9	C. Phloem.	10	B. Nephron.
11	D. All of the above	12	C. Get rid of excess water by translocation
13	D. Above all	14	A. Right ventricle → pulmonary artery → lungs
15	B. Renal arteries	16	D. Right ventricle & Pulmonary artery
17	A. These have a thick elastic wall and the blood flows under high pressure.	18	B. Translocation
19	C. 1-Right atrium, 2- vena cava from lower body 3-Pulmonary arteries , 4-left ventricle	20	D. vacuole
21	A. Tissue fluid	22	B. Pulmonary artery
23	C. pulmonary vein	24	A. Aorta
25	D. Translocation	26	C. Kidneys
27	A. Fishes	28	C. The body temperature of these animals depends on the temperature of the atmosphere
29	C. Excretion	30	D. Photosynthetic product transport through it

10. Control and Co-ordination

1.On touching a hot plate you suddenly withdraw your hand, which category of neurons became active first and which one next…

A) Sensory neuron and Motor neuron B) Motor neuron and Sensory neuron

C) Relay neuron and Sensory neuron D) Relay neuron and Motor neuron

2.Part of the body that controls reflex action is…

A) Spinal cord B) Brain C) Nerves D) Hypothalamus

3. Part of the neuron where the impulse is converted in to chemical signal for onward transmission

A) Axon B) Synapse C) Dendrite D) Cell body

4. Identify the parts of neuron…

i] Where information is acquired.

ii] Through which information travels as an electrical impulse.

iii] Where this impulse is converted in to a chemical signal.

A) i] Synapse ii] Dendrites iii] Axon

B) i]Dendrites ii] Axon iii]Synapse

C) i]Axon ii] Dendrites iii]Synapse

D) i]Dendrites ii]Synapse iii]Axon

5. Correct sequence of components in a reflex arc.

A) Relay neuron –> receptors –> sensory neuron –> motor neuron –> effector

B) Receptors –> relay neuron –> effector –> motor neuron –> sensory neuron

C) Sensory neuron –>motor neuron–>receptor –> relay neuron –> effector

D) Receptors –> sensory neuron –> relay neuron –> motor neuron –> effector

6. Parts of the central nervous system are …..

A) Brain and Cranium B) Spinal cord and Cranium

C)Brain and Spinal cord D) Vertebral column and Spinal cord

7.Brain is protected by…..

A) Cranium B) Cranium and cerebrospinal fluid

C) Cerebrospinal fluid D) Vertebral column

8.Seat of consciousness in our brain is….

A)Pons B)Cerebellum

C)Medulla D)Cerebrum

9. In plants, the communication of information occurs by the method of,

A) Electro-Chemical method B) Chemical method

C) Reflex-action method D) Electro- communication method

10. The leaves of a plant at the stage of fall, the hormone responsible for this is,

A) Auxin B)Gibberellin C) Abscisic acid D) Cytokinin

11. Plant cells change the shape while communicating the information. The reason for this change in cells is the change in the ,

1) Quantity of proteins 2) Quantity of Water

3)Quantity of Carbohydrates 4) Quantity of Minerals

A) 1only B) 2 only C) 1 and 2 only D) 1 and 4 only

12. Hormone controlling the metabolism of carbohydrates, proteins and fats is,

A) Thyroxin B) Adrenalin C) Insulin D) Glucagon

13. A doctor suggest the person to use less sugar in food, the reason is ,

A) Growth is very faster B) Suffering from diabetes

C) Infected by black fungus D) Infected by covid-19

14. The plant hormone controlling the growth of a tendril around the support .

A) Gibberellin B) Auxin C) Cytokinin D) Abscisic acid

15. The reason for the difference in blood glucose level is,

A) Imbalanced insulin secretion

B) Imbalanced glucagon secretion

C) Imbalanced insulin and glucagon secretion

D) Balanced insulin and imbalanced glucagon

16. A person can't walk straight, can't ride a bicycle, and can't pick up a pencil, after he met with an accident, the part of the brain that is damaged is…

A) Medulla B) Cerebrum C) Pons D) Cerebellum

17. The function of medulla is…..

A)Controlling blood pressure level B) Controlling salivation

C) Controlling vomiting D) All the above

18. Part of the brain which maintains the posture and balance of the body…

A) Cerebrum B) Mid-brain C) Cerebellum D) Hind-brain

19. Correct sequence of components in a reflex arc.

A) Relay neuron –> receptors –> sensory neuron –> motor neuron –>effector

B) Receptors –> sensory neuron–>relay neuron –> motor neuron –> effector

C) Sensory neuron –> motor neuron–>receptor –> relay neuron–>effector

D) Receptors–>relay neuron –> effector –>motor neuron–>sensory neuron

20. Correct path of impulse transmission in the neuron…

A) Cell body–>axon –> dendrites –> nerve ending

B) Axon –>dendrites –> cell body–>nerve ending

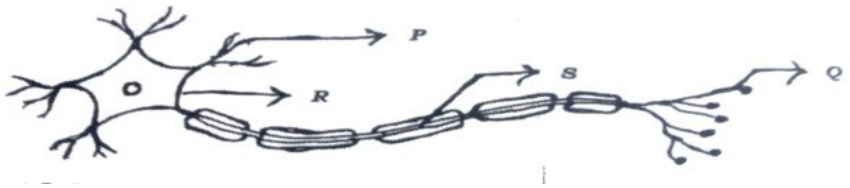
C) Dendrites –> cell body –> axon –> nerve ending

D) Dendrites –> axon –> cell body –> nerve ending

21.Hormone responsible for the dwarfness of a person,

A) Thyroxin B) Growth hormone C) Insulin D) Adrenalin

22.The correct path of the movement of nerve impulses in the following diagram is,



A) Q → S → R → P
B) P → Q → R → S
C) S → R → Q → P
D) P → R → S → Q

23. Which is the correct direction of flow of impulse in the following diagrams

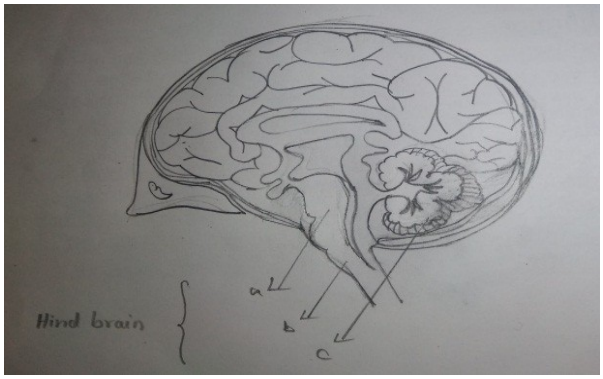
A)

B)

C)

D)

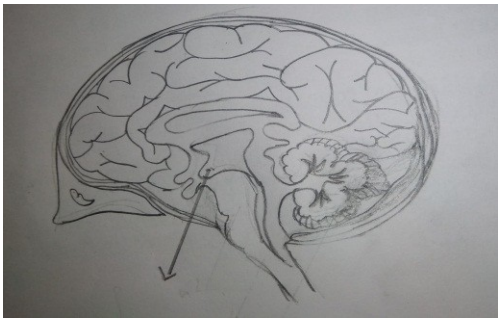
24) The correct order of parts marked in the diagram is



A) a .Medulla , b. Pons , c.Cerebellum
B) a.Medulla , b.Cerebellum , c.Pons
C) a.Cerebellum , b.Medulla , c.Pons
D) a.Pons , b.Medulla, c. Cerebellum

25) The function of the part marked in the diagram is

A)Sensation of eaten enough
B)Seat of consciousness
C)Controlling involuntary actions
D)Maintaining equilibrium



26. The situation where auxin is secreted during the growth of the plant stem in length,

A) When recepts Heat
B) when recepts humidity
C) When recepts light
D) Both A and C

27. The movement of sunflower towards sun is,

A) Hydrotropism
B) Phototropism
C) Geotropism
D) Chemotropism

28. A person is afraid of seeing a snake. The hormone brings his body to the normal condition is,

A) Thyroxin
B) Adrenalin
C) Testosterone
D) Progesterone

29. Hormones which induces the growth of a plant,

A) Auxin, Gibberellin, Cytokinin
B) Auxin, Gibberellin, Abscisic acid
C) Gibberellin, Abscisic acid, Cytokinin
D) Abscisic acid, Cytokinin, Auxin

30. The emergency hormone in human body is,

A) Insulin
B) Testosterone
C) Thyroxin
D) Adrenalin

31. The changes associated with puberty in males and females by the secretion of _____ hormones respectively.

A) Testosterone ,estrogen
B) Estrogen , Testosterone
C) Estrogen , Progesterone
D) Testosterone, Progesterone

32. This disease can be controlled by the secretion of hormone from pancreas

A) Diabetes
B) Night blindness
C) Anaemia
D) Simple goiter

33. The gland which secretes the hormone inducing growth

A) Pancreas
B) Thyroid
C) Adrenal
D) Pituitary

34. The part of male reproductive system which secretes testosterone

A) Testis
B) Prostate gland
C) Seminal vesicles
D) Pituitary

KEY-ANSWERS

1. A) Sensory neuron and Motor neuron
2. A) Spinal cord
3. B) Synapse
4. B) i]Dendrites ii]Axon iii]Synapse
5. D) Receptors – sensory neuron – relay neuron – motor neuron – effector
6. C) Brain and Spinal cord
7. B) Cranium and cerebrospinal fluid

8.D) Cerebrum

9. A) Electro-Chemical method
10. C) Abscisic acid

11.B) 2 only

12. A) Thyroxin

13.B) Suffering from diabetes

14.B) Auxin

15.A) Imbalanced insulin secretion

16.D) Cerebellum

17. D) All the above
18. C) Cerebellum
19. B) Receptors –> sensory neuron–>relay neuron –> motor neuron –> effector
20. C) Dendrites –> cell body –> axon –> nerve ending
21. B) Growth hormone
22. D) P → R → S → Q
23. C) 
24. D) a.Pons ,b.Medulla , c. Cerebellum
25. A) Sensation of eaten enough
26. C) When recepts light
27. B) Phototropism
28. B) Adrenalin
29. A) Auxin, Gibberellin, Cytokinin
30. D) Adrenalin
31. A) Testosterone ,estrogen
32. A) Pancreas
33. D) Pituitary
34. A) Testis

11. OUR ENVIRONMENT

1. The formula for the ozone molecule

A) O_2 B) O_3 C) O_4 D) O_6

2. The number of oxygen atoms in ozone

A) 4 B) 6 C) 3 D) 2

3. Chemical substance that causes the ozone layer to collapse / decrease

A) carbon tetroxide B) chlorofluoro carbon

C) methane D) carbon monoxide

4. Radiation that converts atmospheric oxygen into ozone

A) gamma radiation B) infra-red radiation

C) cosmic radiation D) ultra-violet radiation

5. Chemical used in decomposition and fire extinguishers

A) methane B) chlorofluoro carbon

C) nitrogen D) carbon dioxide

6. The ozone layer is necessary because,

A) it absorbs infrared radiation and B) it absorbs heat

C) it absorbs solar radiation D) it absorbs ultra-violet radiation

7. The following are the groups that undergo biodegradation

a. wood, paper, PVC b. paper, nuts, detergent

c. paper, animal waste, wood d. cotton, leaves, paper

A) a. b. c. B) b. c. d. C) a. & b. only D) c. & d. only

8. The effect of ultra-violet radiation on human is

A) increase immunity B) because damage to the lungs

C) skin cancer D) damage to the nervous system

9. Make it mandatory to make CFC-free refrigerators for ozone protection launched in

A) in 1987 B) in 1985 C) in 1983 (D) in 1980

10.Correct statement of these with respect to biodegradable materials; These things

A) remain inert in the environment for a long time

B) causing damage to many organisms of the ecosystem

C) increasing concentrations of harmful chemicals in different feeding layers

D) the environment is naturally recycled

11. Two - stage equation of ozone layer formation

A) 1) $O_2 \xrightarrow{UV} O + O$ 2) $O + O_2 \xrightarrow{UV} O_3$

B) 1) $O_2 + O \xrightarrow{UV} O$ 2) $O_2 + O \xrightarrow{UV} O_3$

C) 1) $O_2 + O_2 \xrightarrow{UV} O_3$ 2) $O_2 + O \xrightarrow{UV} O_3$

D) 1) $O + O \xrightarrow{UV} O_2$ 2) $O_2 + O \xrightarrow{UV} O_3$

12.Which of the following are eco-friendly practices?

A) carrying cloth bags for shopping

B) switch off unnecessary lights and fans

C) walking on foot instead of your mother's two-wheeler to school

D) all the above are correct

13. Do not use plastic cups once in a while because

A) they are made of lighter material B) they are poisonous

C) they are biodegradable materials D) they are not biodegradable

14. The phenomenon whereby some chemical substances that are non biodegradable occupy the upper levels of the food chain at optimum concentration

A) energy magnification B) bio magnification

C) speed enhancement D) chemical magnification

15. Now a days, we have a lot of garbage the main reasons are

A) our life style has changed B) overuse of disposable materials

C) altered packaging methods D) all the above are correct

16.Abbreviation of 'UNEP'

A) United Nations Economic Programme

B) United Nations Enlargement Programme

C) United Nations Evolution Programme

D) United Nations Environment Programme

Key-Answers:

1	2	3	4	5	6	7	8
B	C	B	D	B	D	D	C
9	10	11	12	13	14	15	16
A	D	A	D	D	B	D	D

12. HOW DO ORGANISMS REPRODUCE?

1. The anther contains

A. Sepals B. Petals C. Ovules D. Pollen grains

2. The part of the plant seed that grows into root on germination.

A. Cotyledon B. Endosperm C. Radical D. Seed coat

3. The part of the plant seed that grows and develops into shoot on germination

A. Endosperm B. Plumule C. Radical D. Seed coat

4. Which of the following is the correct sequence of events of sexual reproduction in Flower

A. Pollination, Fertilization, Seed, Embryo

B. Seed, Embryo, Fertilization, Pollination

C. Pollination, Fertilization, Embryo, Seed

D. Fertilization, Seed, Pollination, Embryo

5.Which of the following is not a part of the female reproductive system in human beings

A. Vas deferens B. Ovary C. Uterus D. Fallopian tube

6. Which of the following is not a part of the male reproductive system in human beings

A. Testis B. Uterus C. Vas deferens D. Scrotum

7. Which one among one of the following does not belong to female part of flower/ pistil

A. Ovary B. Style C. Anther D. Stigma

8. In plants seeds are developed from

A. Ovary B. Sepals C. Petals D. Ovules

9. Fruits develop from

A. Sepals B. Ovary C. Petals D. Ovules

10. Transfer of pollen grains from stamen to stigma is

A. Fertilization B. Variation C. Pollination D. Mutation

11. A pathogen that causes gonorrhoea and syphilis transmitted through sexual contact.

A. Protozoa B. Bacteria C. Virus D. Fungus

12. A pathogen that causes AIDS and warts transmitted through sexual contact

A. Protozoa B. Bacteria C. Virus D. Fungus

13. In Plants after Fertilization the zygote divides several times and form

A. Embryo B. Seed C. Cotyledon D. Fruit

14. Growing foetus derives nutrition from mother's blood through

A. Placenta B. Fallopian tube C. Uterus D. Cervix

15. In flower ovules present in

A. Stamen B. Stigma C. Ovary D. Style

16. In flower ovary contains

A. Sepals B. Petals C. Pollen grains D. Ovules

17. In Flower, the parts that produce male and female gametes are

A. Stamen and Anther B. Filament and Stigma

C. Anther and Ovary D. Stamen and Style

18. Which of the following not a sexually transmitted disease

A. Gonorrhoea B. Syphilis C. Goiter D. AIDS

19. Menstruation usually lasts for about

A. 2 to 5 days B. 2 to 6 days

C. 2 to 7 days D. 2 to 8 days

20. In human beings Fertilization takes place

A. fallopian tube B. Ovary C. Uterus D. Vagina

21. Germination Of pollen starts

A. On stigma B. In style

C. In ovary D. Anther

22. The innermost part of the typical flower is

A. Petals B. Sepals C. Pistil D. Stamen

23. In male reproductive system sperm formation takes place in

A. Vas deferens B. Ureter

C. Prostate gland D. Testis

24. The outermost part of the typical flower is

A. Petals B. Sepals

C. Pistil D. Stamen

25. In male human beings which is the common passage for both urine and sperms

A. Urethra B. Urinary bladder

C. Penis D. Ureter

26. The development of child inside mother's body in humans takes approximately

A. 7 Months B. 9 Months

C. 8 Months D.10 Months

27. In female reproductive system which part is blocked to avoid pregnancy

A. Fallopian tube B. Ovary C. Cervix D. Vagina

28. Which of the following contraceptive method is safe to avoid pregnancy in human beings

A. Using condoms B. Oral pills C. Copper-T D. Surgical method

29. This hormone bring changes in appearance seen in boys at the time of puberty

A. Thyroxin B. Testosterone C. Oestrogen D. Adrenaline

30. Remove odd one

A. Hibiscus B. Papaya C. Mustard D. Green pea

HOW DO ORGANISMS REPRODUCE?	
Answer Key	
1	D. Pollen grains
2	C. Radical
3	B. Plumule
4	C. Pollination, Fertilization, Embryo, Seed
5	A. Vas deferens
6	B. Uterus
7	C. Anther
8	D. Ovules
9	A. Ovary
10	C. Pollination
11	B. Bacteria
12	C. Virus
13	A. Embryo
14	A. Placenta
15	C. Ovary
16	D. Ovules
17	C. Anther and Ovary
18	C. Goiter
19	D. 2 to 8 days
20	A. Fallopian tube
21	A. On stigma
22	C. Pistil
23	D. Testis
24	B. Sepals
25	A. Urethra
26	B. 9 Months
27	A. Fallopian tube
28	D. Surgical method
29	B. Testosterone
30	B. Papaya

13. Heredity and Evolution

1.Father of Modern Genetics

A) Mendeleev B) Gregor Mendel C) Lamarck D) Charles Darwin

2. A cross between two pea plants which differ in one character is called

A) Monohybrid cross B) Dihybrid cross C) Mixed hybrid cross D) All the above

3. Choose the plant used by Mendel to conduct his genetical experiments

A) Rose B) Pea C) Hibiscus D) Sunflower

4. Phenotypic ratio of tall and dwarf plants in Mendel's Monohybrid cross experiment is

A) 2:1 B) 9:3:3:1 C) 3:1 D) 1:1

5. What is the ratio of pure bred tall pea plant (TT) and pure bred dwarf pea plant (tt) in F2 generation when Mendel conducted experiment on pea plant which has character of pure bred tall pea plants with pure bred dwarf peaplants?

A) 1:3 B) 3:1 C) 1:1 D) 2:1

6. Speciation occurs in which of the following situation

A) Geographical isolation B) Natural selection

C) Variation in DNA D) All the above

7. The transmission of characters or traits from the parents to the offsprings

A) DNA replication B) Variations C) Transfer D) Heredity

8. A cross between two plants which differ in two specific characters is called

A) monohybrid cross B) dihybrid cross

C) mixed hybrid cross D) none of the above

9. From an evolutionary point of view we have more in common body design

A) a Chinese school boy B) a bacterium

C) a monkey D) a Chimpanzee

10. Sex of a child is determined by

A) XX chromosome B) XY chromosome

C) YX chromosome D)YXY chromosome

11.All the plants derived from the seeds produced when crossing the tall pea plant with the shorter pea plant are taller because

A) tall plant is dominant B) dwarf plant is dominant

C) tall plant is recessive D) undetermined by the T or t genes

12.If the pea plant with a round green seed(RRyy) is mixed with a pea plant with succulent yellow seed (rrYY), then the seeds produced in the F1 generation are:

A) Round yellow B) Round green C) Succulent green D) Succulent yellow

13.Which of the following genetic design determines the sex of men?

A) XX B) XY C) YX D) YXY

14. Which of the following chromosomes is crucial for a mother to have a baby boy?

A) Father's chromosome B) Mother's chromosome

C) Ancestral chromosome D) None of these

15.The remains of extinct organisms are called

A) Fossils B) Time period

C)Homologous organ D) Analogous organ

16. Which of the following are the characteristics of a person's development and experience over his lifetime?

A) Dominant characteristic B) Inherited characters

C) Acquired character D) Recessive character

17. Which one of the following vegetables is not developed from the wild cabbage plant

A) Broccoli B) Red cabbage

C) Potato D) Cauliflower

18. The transfer of characteristics from parents to children

A) Differentiation B) Hybridisation

C) Gene conversion D) Inheritance

19. Gametes : n :: zygote : _____

A) n B) 2n C) 3n D) 4n

20. Characteristics in an organism are Influenced by

A) Father's DNA B) Mother's DNA

C) Father's and mother's DNA D) None of these

21. The process by which DNA makes a copy of itself during cell division

A) speciation B) Heredity

C) replication D) dihybrid cross

22. The contribution of Laws on Inheritance was given by

A) Aristotle B) Darwin C) Newton D) Gregor Mendel

23. According to the availability of evidence the modern man originated in

A) Africa B) Asia C) Australia D) America

24. Vegetable obtained from wild cabbage

A) pea B) beetroot C) broccoli D) tomato

25. The number of pairs of sex chromosomes in the zygote of human being is

A) 2 B) 3 C) 1 D) 4

26. Element used to predict the age of a fossil(relative dating)

A) sulphur B) oxygen C) carbon D) nitrogen

27. The wings of bat and pigeon are the examples of

A) Analogous organs B) Vestigial organs

C) Homologous organs D) Adaptive organs

28. The process by which new species of living organisms develop from pre-existing forms over several generations

A) heredity B) evolution C) acquired characters D) generation

29. Analogous organs have

A) same structure same function

B) same structure different functions

C) different structures same function

D) different structures and different functions

30.An example of homologous organs

A) our arm and a dog's foreleg

B) our teeth and an elephant's tusks

C) potato and runners of grass

D) all of the above

31. The evolutionary process by which new species evolve from the existing species

A) natural selection B) artificial selection C) evolution D) speciation

32. which of the following is an example for inherited variation

A) difference in age between two persons

B) difference in food habits between two persons

C) one person has a scar but his friend does not

D) two children have different eye colours

33. Difference between genetic drift and natural selection

A) genetic drift does not require variation

B) unlike natural selection genetic drift happens

C) there is no struggle for existence against other members of species in genetic drift

D) there is no difference

34. Wild cabbage has evolved into new varieties like cabbage, broccoli & cauliflower by

A) genetic drift

B) natural selection

C) artificial selection

D) reproductive isolation

35. Which of the following is an example for continuous variation

A) colour of the hairs

B) colour of the eye

C) weight of the body

D) sex of the organsim

36.Organs which are having similar origin in their structures but perform different functions are known as

A) Analogous organs B) Homologous organs

C) Vestigial organs D) None of the above

37. Fossil found very deep under the earth's crust reveals

A) They are the recent fossils

B) Fossils were formed millions of years ago

C) Age of the fossils cannot be predicted

D) there is no relation between the fossil and the depth they are found under the earth's crust

38. Common factor used to find the race of the human

A) Height B) colour of the skin C) Nose D) Hair colour

39.DNA produces _____ in the cell

A) Lipid B) vitamins C) proteins D) all the above

40. In humans if gene B gives brown eye and gene b gives blue eye what will be the colour of the eye having combinations i)Bb and ii) BB

A) i) blue and ii) brown B) i) brown and ii) blue

C) i) brown and ii) brown D) i) blue and ii) blue

Key Answers

Question	Ans	Question	Ans	Question	Ans	Question	Ans
1	B	11	A	21	C	31	D
2	A	12	A	22	D	32	D
3	B	13	B	23	A	33	C
4	C	14	A	24	C	34	C
5	C	15	A	25	C	35	C
6	D	16	C	26	C	36	B
7	D	17	C	27	A	37	B
8	B	18	D	28	B	38	B
9	A	19	B	29	C	39	C
10	B	20	C	30	D	40	C

14. SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES

1) Which of the following is the "Biodiversity hotspots"

A) Mountains B) Deserts C) Oceans D) Forests

2) Which of the following is the main goal of conservation of resources.

A)Industrialisation B) Economic growth

C) The survival of the human race D) Preserve the bio-diversity

3) The Aim of "Ganga Action Plan" is

A) To enhance the quality of water

B) To prevent throwing of the urban garbage into rivers.

C) To prevent throwing of half burnt dead bodies into rivers.

D)All the above.

4) A group of bacteria found in the human intestines, whose presence in river Ganga indicates contamination and the quality of the water was very poor

A) Lactobacillus B) Coliform

C)Rhizobium D) Gonorrhoea

5) "Kattas" are the age old concept of water harvesting in ------

A)Karnataka B) Kerala C) Tamilunadu D) Andhra Pradesh

6) The main motive of rain water harvesting is to

A) use it for irrigation B) Culture fishes

C) recharge ground water D) For improvement of industrialization.

7) Construction of Khadin System in level terrain helps in_

A. Ground water level decreases

B. Ground water get polluted

C. Nearest Plants destroys due to excess of water

D. Ground water level increases

8) Which of the following are the stakeholders for the conservation of forests ?

A) The people live in or around the forests

B) The department of forests of the government and the Industrialists

C) The wild life and nature enthusiasts.

D) All the above.

9) "Cracked crockery or cups with broken handles can be used to grow plants".

This is as example for

A) Repurpose B) Recycle C) Reuse D) Reduce

10) Reuse strategy is better the recycling because

A) does not require energy B) avoid environment pollution.

C) Minimising expenditure D) All of the above

11) The best method is to recycle biodegradable materials

A) burying B) burning C) draining D) throwing beside the road

12) Which environmental problem is associated by rising the height of construction of dams ?

A) It involves in spending of large investment

B) A large area of residence, agricultural land and industrial area will be submerged in water.

C) It leads to deforestation and loss of bio diversity.

D) All the above .

13) Rajasthan: Khadins, tanks and nadis :: Maharashtra:----------

A)bandhras and tals B)bundhis C) ahars and pynes D) kulhs

14) Say No to single use plastic carry bags is example for

A) Repurpose B) Recycle C) Refuse D) Reduce

15) Which of the following are to be managed for sustainable development?

A) Industries B) Trees C) Crops D) Resources

16) Mining leads to destruction of environment because of

A) the fine top soil is spoiled

B) dust causes air pollution

C) A large amount of slag discards from extraction of metals.

D) All the above.

17) Which of the following is an example for peoples participation in the management of forests ?

A) Sal forest in West Bengal

B) The great Himalayan National Park

C) Khejri forest in Jodhpur

D) Gharwal forest in Himalayas

18) Water intensive crops are

A) Millet and pepper B) Potato and Onion

C) Sugar cane and Rice D) Coconut and Coffee

19) Amritha devi Bishnoi sacrificed her life to protect the

A) Palm trees B) Khejri trees

C) Teak wood trees D) Sal trees

20) " Amritha Devi Bishnai National award"is basically given for

A) Best performance in sports

B) A person who struggle for Welfare of farmers

C) Wild life conservation

D) None of the above

21) Write the full form of (abbreviation) "GAP" is

A) Govt. Agency for animal Protection. B) Govt. Agency for Pollution .

C) Gross Assimilation by Photosynthesis.3 D) Ganga Action Plan.

22) Which one is a wrong statement in association with forests?

A) Resin and drugs are obtained. B) Causes soil erosion.

C) Raw material of paper obtained, D)Controls flood.

23) Traditional rain water harvesting in Himachal Pradesh

A) aris B) kulhs C) bundhis D) ponds

24) Destroy of forest causes

A) Loss of food and shelter of wild animals. B) Loss of trees.

C) Loss of population of wild life. D) Loss of biodiversity.

25) Which of the following is not a natural resources?

A) Soil B) Electricity C) Water D) Air

26) Ground water will not be depleted due to

A) Afforestation B) Thermal Power Plants

C) Deforestation D) Cultivation of high water demand crops.

27) Name the leader of the"CHIPKO Andolan" who is recently died

A) Amritha devi Bishni B) Sundarlal Bahuguna

C) Medha Patkar D) A K Banerjee

28) 'Sardar Sarovar Dam' is situated on the river of

A) Ganga B) Kaveri C) Thunga D) Narmada

29) The name of "Conservation of Forests Movement" started in a remote village named "Reni in Gharwal" of Himalaya is

A) Bedthi Andolan B) Chipko Andolan

C) Narmada Bachavo D)Western ghats Save Andolan

30) The name for practice of growing and cultivation of trees is

A) Sericulture B) Silviculture C) Apiculture D) Agriculture

31) Which of the following helps to generate electricity ?

A) Dams B) Rivers C) Lakes D) Deserts

32) Tendu leaves are used in

A) fertilizers B) making beedi's

C) Ayurvedic medicines D) Agarbathie's

33) Loss of Bio diversity leads to

A) Loss of social stability B) Loss of ecological stability

C) Loss of economical stability D) Loss of geographical stability

34) Which one is inexhaustible natural resource ?

A) Water B) Forests

C) Coal D) minerals

35) 3 R's that will help us to conserve natural resources for long term use are

A) Reduce,Reuse, Recycle B) Reduce, Regenerate, Reuse

C) Reuse, Reduce, Redistribute D) Recycle, Regenerate, Reuse

36) The quality of environment can be improved by

A) Urbanization B) Overuse of natural resources

C) Deforestation D) Conservation of resources

37) The measure of the number of species found in an area is called

A) Organism Number B) Organism density

C) Bio Diversity D) All the above

KEY-ANSWERS

1)D 4)B 7)B 10) D 13) A 16) D 18) C 21) D 24) D 27) B 30) B 33) B 36) D

2)D 5)A 8)D 11) A 14) C 17) A 19) B 22) B 25) B 28) D 31) A 34) A 37) C

3)D 6)C 9) A 12) D 15) D 18) C 20) C 23) B 26)A 29) B 32) B 35) A

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VISMAYA

VIGNANA