दयानंद शिक्षण संस्था, लातूर

"आ नो भद्रा क्रतवो यन्तु विश्वतः"

Dayanand Education Society, Latur.

NEET (CBSE) (SET - 2)

Marks : 400	Date : 16 April 2023	Time : 1.00 pm - 3.00 pm

: Instructions :

* This question paper set contains 100 questions, each carry 4 marks.
* No negative marking for wrong answer.
* Fill the particulars on Answer Sheet (OMR) with Black or Blue ball point pen. (Donot use Pencil)
* Do not open the seal of question paper until you are ask to do so.
* There are four choices for every question out of which only one option is correct.
* Candidate should not carry any printed material, Cell phone and any other electronic device.
* Rough work is to be done on the provided space in question paper.
* Do not fold the answer sheet (OMR)
* Only Name and Roll No. is necessary on answer sheet (OMR).
* In the place of Sub on OMR sheet write **PCB** or **PCM**.

Wish You All the Best !

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PHYSICS

01. A diminished virtual image can be formed only by

a) Plane mirror b) A concave mirror

c) A convex mirror d) Concave-parabolic mirror

02. A concave mirror gives an image three times as large as the object placed at a distance of 20 cm from it. For the image to be real, the focal length should be

a) 10 cm b) 15 cm c) 20 cm d) 30 cm

03. White light is incident normally on a glass slab. Inside the glass slab

a) Red light travels faster than other colours

b) Violet light travels faster than other colours

c) Yellow light travels faster than other colours

d) All colours travel with the same speed

04. A beam of monochromatic blue light of wavelength 4200 Å in air travels in water of refractive index 4/3. Its wavelength in water will be

a) 4200 Å b) 5800 Å c) 4150 Å d) 3150 Å

05. When a light wave goes from air to water, the quantity that remains unchanged is its

a) Speed b) Amplitude c) Frequency d) Wavelength

06. The radius of curvature for a convex lens is 40 cm, for each surface. Its refractive index is 1.5. The focal length will be

a) 40 cm b) 20 cm c) 80 cm d) 30 cm

07. Two lenses of power +12 and –2 dioptres are placed in contact. What will be focal length of combination

a) 10 cm b) 12.5 cm c) 16.6 cm d) 8.33 cm

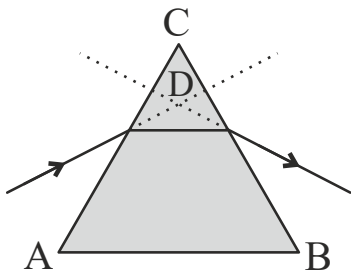
08. Given a point source of light, which of the following can produce a parallel beam of light

a) Convex mirror b) Concave mirror

c) Concave lens d) Two plane mirror inclined at an angle of 90°

Space for Rough work

09. Spectrum of sunlight is an example for
    a) Band emission spectrum
    b) Line absorption spectrum
    c) Continuous emission spectrum
    d) Continuous absorption spectrum
10. When white light enters a prism, it gets split into its constituent colours. This is due to
    a) High density of prism material
    b) Because μ is different for different λ
    c) Diffraction of light
    d) Velocity changes for different frequencies
11. In the given figure, which is the angle of prism



    a) A b) B c) C d) D
12. Colour of the sky is blue due to
    a) Scattering of light
    b) Total internal reflection
    c) Total emission
    d) Total absorption
13. Ability of the eye to see objects at all distances is called
    a) Binocular vision b) Myopia c) Hypermetropia d) Accommodation
14. For the myopic eye, the defect is cured by
    a) Convex lens b) Concave lens c) Cylindrical lens d) Toric lens
15. The hyper-metropia is a
    a) Short-side defect
    b) Long-side defect
    c) Bad vision due to old age
    d) None of these

Space for Rough work

16. What length of the wire of specific resistance $48\times10^{-8}\ \Omega$ m is needed to make a resistance of $4.2\ \Omega$ (diameter of wire = 0.4 mm)

a) 4.1 m b) 3.1 m c) 2.1 m d) 1.1 m

17. The resistance of a wire is R. If the length of the wire is doubled by stretching, then the new resistance will be

a) 2R b) 4R c) R d) $\frac{R}{4}$

18. The resistance of a wire is $10\ \Omega$. Its length is increased by 10% by stretching. The new resistance will now be

a) $12\ \Omega$ b) $1.2\ \Omega$ c) $13\ \Omega$ d) $11\ \Omega$

19. Two wires A and B of same material and same mass have radii 2r and r respectively. If resistance of wire A is $34\ \Omega$, then resistance of B will be

a) $544\ \Omega$ b) $272\ \Omega$ c) $68\ \Omega$ d) $17\ \Omega$

20. When a current flows through a conductor its temperature

a) May increase or decrease b) Remains same

c) Decreases d) Increases

21. The resistance of a conductor increases with

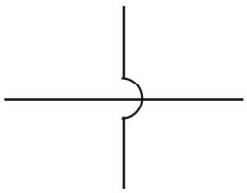
a) Increase in length b) Increase in temperature

c) Decrease in cross-sectional area d) All of these

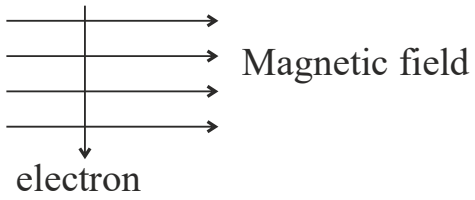
Space for Rough work

22. The symbol of an electric cell is .....

a) 

b) 
c) 
d) 

23. An electron enters a magnetic field at right angles to it, as shown in figure. The direction of force acting on the electron will be



a) to the right b) to the left left c) Out of the page d) into the page

24. The direction fo magnetic lines of forces close to a straight conductor carrying current will be

a) Along the length of the conductor

b) Radially outward

c) Circular in a plane perpendicular to the conductor

d) Helical

25. A current loop in a magnetic field

a) Can be in equilibrium in two orientations, one stable while the other is unstable

b) Experiences a torque whether the field is uniform or non uniform in all orientations

c) Can be in equilibrium in one orientation

d) Can be in equilibrium in two orientations, both the equilibrium states are unstable

Space for Rough work

26. If a long hollow copper pipe carries a direct current, the magnetic field associated with the current will be

a) Only inside the pipe b) Only outside the pipe

c) Neither inside nor outside the pipe d) Both inside and outside the pipe

27. An electron and a proton with equal momentum enter perpendicularly into a uniform magnetic field, then

a) The path of proton shall be more curved than that of electron

b) The path of proton shall be less curved than that of electron

c) Both are equally curved

d) Path of both will be straight line

28. The current is flowing in south direction along a power line. The direction of magnetic field above the power line (neglecting earth`s field) is

a) South b) East c) North d) West

29. A particle is moving in auniform magnetic field, then

a) Its momentum changes but total energy remains the same

b) Both momentum and total energy remain the same

c) Both will change

d) Total energy changes but momentum remains the same

30. Which of the following properly of a proton can change while it moves freely in a magnetic field ?

a) Mass b) Speed c) Velocity d) Charge

Space for Rough work

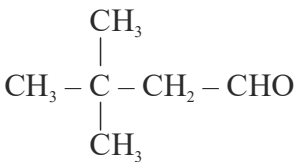
CHEMISTRY

31. The reaction in which two compounds exchanges their ions to form two different compounds is known as
    a) Displacement Reaction
    b) Reduction reaction
    c) Substitution reaction
    d) Double displacement reaction
32. The process of coating iron with zinc is called as
    a) Reduction
    b) Galvanisation
    c) electroplating
    d) Polishing
33. Oxidation reaction involves
    a) Decrease in the valence of positive part
    b) Increase in the valence of negative part
    c) Gain of electrons
    d) Loss of electrons
34. Which of the following is a combustion reaction ?
    a) Rusting of iron
    b) Melting of iron
    c) Burning of petrol
    d) Boiling of water
35. Which of the following metal is protected by the formation of a layer of its oxide ?
    a) Au
    b) Al
    c) Cu
    d) Fe
36. Removal of impurities from ore is known as
    a) Calcination
    b) Roasting
    c) Crushing and grinding
    d) Concentration of ore
37. Which one of the following metal is found in liquid state at room temperature ?
    a) Fe
    b) Na
    c) Cr
    d) Hg
38. Which one of the following metal oxides shows both acidic and basic characters ?
    a) Al_2O_3
    b) CuO
    c) Na_2O
    d) K_2O
39. The d-block elements are placed from groups
    a) 13 to 18
    b) 4 to 12
    c) 3 to 12
    d) 1 to 2
40. Which element is more electronegative among halogens ?
    a) Cl
    b) F
    c) Br
    d) I
41. Which of the following element has the smallest atomic size ?
    a) Ar
    b) Si
    c) Cl
    d) Na

Space for Rough work

42. The total number of elements present in the 6^{th} period is .....

a) 32 b) 36 c) 18 d) 14

43. IUPAC name of the compound 

a) 3, 3 – dimethyl butanal b) 1, 1 – dimethyl butanal

c) 2, 2 – dimethyl butanal d) 3, 3, 3 – dimethyl propanal

44. Oils on treating with hydrogen in the presence of palladium or nickel catalyst forms fats. This is an example of

a) Substitution b) Oxidation c) Displacement d) Addition

45. Which of the following compounds cannot exhibit chain isomerism ?

a) Propane b) Pentane c) Hexane d) Butane

46. Which of the following is not a saturated hydrocarbon ?

a) Butane b) Cyclohexane c) Isobutane d) Benzene

47. The type of medicine used to treat acidity in stomach is .....

a) Antibiotic b) Antacid c) Antihistamine d) Sulpha drug

48. The acid used as dehydrating agent is

a) H_2SO_4 b) HBr c) HI d) HNO_3

49. If pH of solution is 13, it means that it is .....

a) Strongly acidic b) Weakly acidic c) Strongly basic d) Weakly basic

50. Limestone, chalk and marble are different forms of .....

a) Sodium carbonate b) Zinc carbonate

c) Sodium hydrogen carbonate d) Calcium carbonate

51. The acid used for washing eyes is .....

a) Boric acid b) Carbonic acid c) Acetic acid d) Oxalic acid

Space for Rough work

52. Basic salts are formed by neutralisation of
    a) Strong acid and strong base
    b) Weak acid and weak base
    c) Strong base and weak acid
    d) Strong acid and weak base

53. The reaction $2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_2$ suggest that ethanol is .....
    a) Neutral in nature b) Acidic in nature c) Basic in nature d) Amphoteric in nature

54. Ethanol is oxidised with alkaline $KMnO_4$ to give
    a) Ethanoic acid b) Methanoic acid c) Propanoic acid d) n – Butyric acid

55. 5f series elements are known as
    a) Actinides
    b) Lanthanides
    c) Representative elements
    d) Transition elements

56. Which of the following elements has maximum metallic character ?
    a) P b) N c) Li d) Na

57. Copper on exposure to air reacts with moisture and CO_2 to form a green layer on the surface which is chemically.
    a) Copper sulphate
    b) Copper nitrate
    c) Basic copper carbonate
    d) Copper chloride

58. Which of the following are exothermic processes ?
    i) Reaction of water with quick lime
    ii) Dilution of an acid
    iii) Evaporation of water
    iv) Sublimation of camphor
    a) (i) & (ii) b) (ii) & (iii) c) (i) & (iv) d) (iii) & (iv)

59. The products formed when zinc reacts with steam are
    a) ZnH_2 & O_2 b) ZnO & H_2 c) ZnO_2 & O_2 d) $ZnO_2 + H_2$

60. IUPAC name of $CH_3 - CO - CH_3$
    a) Propane b) Acetone c) Propanone d) Ethanal

Space for Rough work

BOTANY

61. Select the correct statement from the following.
    a) The opening and closing of stomatal pore is regulated by non green cells.
    b) Plants take nitrogen in the form of organic nitrates or nitrates
    c) The soil is the nearest and richest source of minrals
    d) Material like sucrose is transferred into xylem tissue using energy from ATP.
62. Match the column – I with column - II and select the correct codes given below.

Column – I (Process)	**Column – II** (Product)
A. Photosynthesis	i. Lactic acid
B. Aerobic respiration	ii. Glucose + oxygen
C. Fermentation in yeast	iii. $CO_2 + H_2O$
D. Anaerobic respiration in muscle cells	iv. Ethanol + CO_2

    a) A - ii, B - iii, C - iv, D - i b) A - i, B - ii, C - iii, D - iv
    c) A - iv, B - iii, C - ii, D - i d) A - iv, B - ii, C - i, D - iii
63. Which of the following are 3-carbon molecules?
    a) Lactic acid and glucose b) Pyruvic acid and glucose
    c) Pyruvic acid and Lactic acid d) Lactic acid and ethanol
64. The growth of pollen tubes towards the ovule is the examples of
    a) Chemotropism b) Hydrotropism c) Geotropism d) Photosynthesis
65. Which of the following plant hormones that inhibits growth and causes wilting of leaves ?
    a) Auxin b) Gibbrellin c) Abscisic acid d) Cytokinin
66. Cytokinin hormones are present in high concentration in areas of
    a) rapid cell division b) Fruits c) Seeds d) All of these
67. Choose the mismatched pair :
    a) Growth of shoot apex away from soil - Geotropism
    b) Growth of root towards the water souce - Hydrotropism
    c) Tendrils in pea plant - Non directional growth movement
    d) Response of 'touch-me-not plant' to touch - None growth movement

Space for Rough work

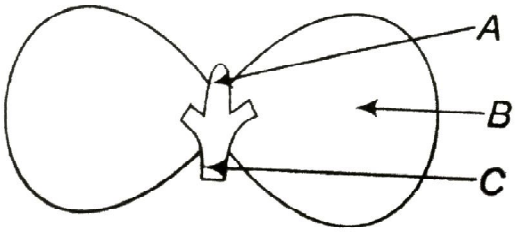
68. The plants not propagated by seeds are
a) Banana b) Orange c) Jasmine d) All of these

69. New plantlets can be produced from the buds of leaf in case of
a) Potato b) *Bryophyllum* c) Sugarcane d) Grapes

70. Asexual reproduction takes place by
a) Spore formation b) Vegetative propagation
c) Tissue culture d) All of these

71. _____ and _____ are reproduction parts of a flower.
a) Stamens and pistil b) Sepals and pistil
c) Petals and stamens d) Sepals and petals

72. Identify the correct labelligs **A, B,** and **C** from given figure



a) A - Plumule, B - Cotyledon, C - Radicle
b) A - Radicle, B - Plumule, C - Cotyledon
c) A - Radicle, B - Cotyledon, C - Plumule
d) A - Cotyledon, B - Radicle, C - Plumule

73. A recessive trait among following is :
a) Round seeds b) Tall plants c) White flowers d) Violet flowers

74. Tall pea plants are represented by genotypes
a) TT b) Tt c) tt d) both (a) and (b)

75. Sex determination in human being is mainly depends on
a) type of sex chromosome is inherited from father in child
b) type of sex chromosome is inherited from mother in child
c) type of sex chromosomes are inherited from both parent in child
d) type of sex chromosomes are inherited from either parents

Space for Rough work

76. Gardens and crop - fields are
    a) Man made ecosystems
    b) artificial ecosystems
    c) Natural ecosystems
    d) both (a) and (b)
77. Which of the following are environmental friendly practices ?
    a) Switching off unnecessary lights and fans
    b) Carrying cloth bags to purchase goods
    c) Recycling of biodegradable wastes
    d) all the above
78. _____ chemicals are used as refrigerant and in fire extringuishers
    a) methane
    b) chloroflurocarbons
    c) carbon dioxide
    d) nitrogen oxides
79. In given food chain, frog is the example of
    Grass $\rightarrow$ Grasshopper $\rightarrow$ Frog $\rightarrow$ Snake $\rightarrow$ Eagle
    a) Primary consumer
    b) Secondary consumer
    c) Tertiary consumer
    d) Secondary Carnivore
80. Autotrophic nutrition involves
    a) Intake of simple inorganic materials
    b) utilization of internal source of energy
    c) Uilization of external source of solar energy
    d) Both (a) and (b)

Space for Rough work

ZOOLOGY

81. The process of obtaning food by *Amoeba* is known as :
    a) dialysis b) cytokinesis c) phagocytosis d) amoebiasis
82. Pancreatic juice contains enzymes which digest :
    a) proteins and carbohydrates only
    b) proteins and fats only
    c) fats and carbohydrates only
    d) proteins, fats and carbohydrates
83. Which of the following are the correct functions of two components of pancreatic juice trypsin and lipase?
    a) trypsin digests proteins and lipase carbohydrates
    b) trypsin digests emulsified fats and lipase proteins
    c) trypsin digests strach and lipase fats
    d) trypsin digests proteins and lipase emulsified fats
84. Which of the following increases in muscle cells when they are lacking in oxygen ?
    a) carbon dioxide b) lactose c) lactic acid d) uric acid
85. Which of the following statements are true about respiration ?
    i. during inhalation, ribs move inward and diaphragm is raised
    ii. the gaseous exchange takes place in the alveoli
    iii. haemoglobin has greater affinity for carbon dioxide than oxygen
    iv. alvoli increase surface area for the exchange of gases
    a) i and iv b) ii and iii c) i and iii d) ii and iv
86. In cockroaches, air enters the body through :
    a) lungs b) gills c) spiracles d) skin
87. In which of the following vertebrate group/groups, heart does not pump oxygenated blood to different parts of the body ?
    a) pisces and amphibians b) amphibians and reptiles
    c) amphibians only d) pisces only

Space for Rough work

88. Which of the following has a three-chambered heart ?
a) pigeon b) lizard c) fish d) lion

89. The instrument for measuring blood pressure is called :
a) manometer b) sphygmomanometer
c) barometer d) potentiometer

80. One of the following acts as an endocrine gland as well as exocrine gland. This one is :
a) salivary gland b) pancreas c) pituitary d) parathyroid

91. The number of pairs of nerves which arises from the spinal cord is :
a) 21 b) 31 c) 41 d) 51

92. The hormone which is associated with male puberty is called :
a) oestrogen b) adrenaline c) testosterone d) progesterone

93. In a synapse, chemical signal is transmitted from :
a) axon to cell body of the same neuron
b) cell body to axon end othe same neuron
c) dendrite end of one neuron to axon end of adjacent neuron
d) axon end of one neuron to dendrite end of adjacent neuron

94. The undreactive endocrine gland which causes goitre is :
a) pancreas b) thyroid c) adrenal d) pituitary

95. Which of the following is not a sexually transmitted disease ?
a) gonorrhoea b) hepatitis c) syphilis d) AIDS

96. Which one of the following best describes the function of the umbilical cord ? It :
a) feeds the embryo with digested substances
b) conveys nutrients and wastes to and from the embryo respectively
c) removes waste matter from the embryo to the mother's blood
d) supplies oxygenated blood from the mother to the embryo

97. The ratio of number of chromosomes in a human zygote and a human sperm is :
a) 2 : 1 b) 3 : 1 c) 1 : 2 d) 1 : 3

98. A gradual change, over a long period, in a form of life is known as :
a) erosion b) evolution c) revolution d) evaluation

Space for Rough work

99. According to the evolutionary theory, formation of a new species is generally due to :
    a) sudden creation by nature
    b) accumulation of variations over several generations
    c) clones formed during asexual reproduction
    d) movement of individuals from one habitat to another

100. One pair of organs in the following animals are not homologous. This is :
    a) forelimbs in humans and lizard
    b) forelimbs in lizard and frog
    c) wings in butterfly and bat
    d) wings in bat and bird

Space for Rough work

Space for Rough work

DAYANAND SCIENCE COLLEGE, LATUR
D-SAT - 2023 SET - 2
NEET - CBSE

PHYSICS
KEY TO THE QUESTION BOOKLET

01. C	02. B	03. A	04. D	05. C	06. A	07. A	08. B	09. B	10. B
11. C	12. A	13. D	14. B	15. B	16. D	17. B	18. A	19. A	20. D
21. D	22. A	23. D	24. C	25. A	26. B	27. C	28. D	29. B	30. C

CHEMISTRY
KEY TO THE QUESTION BOOKLET

31. D	32. B	33. D	34. C	35. B	36. D	37. D	38. A	39. C	40. B
41. C	42. A	43. A	44. D	45. A	46. D	47. B	48. A	49. C	50. D
51. A	52. C	53. B	54. A	55. A	56. D	57. C	58. A	59. B	60. C

BIOLOGY
KEY TO THE QUESTION BOOKLET

61. C	62. A	63. C	64. A	65. C	66. D	67. C	68. D	69. B	70. D
71. A	72. A	73. C	74. D	75. A	76. D	77. D	78. B	79. B	80. D
81. C	82. D	83. D	84. C	85. D	86. C	87. D	88. B	89. B	80. B
91. B	92. C	93. D	94. B	95. B	96. B	97. A	98. B	99. B	100. C