Paper Code No- AB25/1

Question Booklet N 225501

ENTRANCE EXAMINATION-2017

BACHELOR OF PHYSIOTHERAPY

SET-A

ROLL NO. | | | | | | | | | |

.....

Signature of Invigilator

Time: 1 Hour 45 Minutes

Total Marks: 100

Instructions to Candidates

1. Do not write your name or put any other mark of identification anywhere in the OMR Answer Sheet. **IF ANY MARK OF IDENTIFICATIONS IS DISCOVERED ANYWHERE IN OMR ANSWER SHEET, the OMR sheet will be cancelled, and will not be evaluated.**
2. This Question Booklet contains this cover page and a total of **100 Multiple Choice Questions of 1mark.** Space for rough work has been provided at the beginning and end. Available space on each page may also be used for rough work.
3. Each correct answer carries one mark.
4. There is negative marking for Multiple Choice Questions. For each wrong answer, 0.25 marks will be deducted.
5. USE OF CALCULATOR IS NOT PERMITTED.
6. USE/POSSESSION OF ELECTRONIC GADGETS LIKE MOBILE PHONE, iPhone, iPad, pager ETC. is not permitted.
7. Candidate should check the serial order of questions at the beginning of the test. If any question is found missing in the serial order, it should be immediately brought to the notice of the Invigilator. No pages should be torn out from this question booklet.
8. Answers must be marked in the OMR answer sheet which is provided separately. OMR answer sheet must be handed over to the invigilator before you leave the seat.
9. The OMR answer sheet should not be folded or wrinkled. The folded or wrinkled OMR/Answer Sheet will not be evaluated.
10. Write your Roll Number in the appropriate space (above) and on the OMR Answer Sheet. Any other details, if asked for, should be written only in the space provided.
11. There are four alternative answers to each question marked A, B, C and D. Select one of the answers you consider most appropriate and fill up the corresponding oval/circle in the OMR Answer Sheet provided to you. The correct procedure for filling up the OMR Answer Sheet is mentioned below.
12. Use Black or Blue Ball Pen only for filling the ovals/circles in OMR Answer Sheet while answering the Questions. For your Choice of answers darken the correct oval/circle completely. If the correct answer is 'B', the corresponding oval/circle should be completely fill and darkened as shown below.

CORRECT METHOD
(A) (●) (C) (D)

WRONG METHOD				
(A) (⊗) (C) (D)	(A) (✓) (C) (D)	(A) (◑) (C) (D)	(A) (●) (C) (D)	( ) (●) (C) (D)

BPT ENTRANCE 2017

1. Cancer cells are more easily damaged by radiation than normal cells because they are
   A. Starved of nutrition
   B. Different in structure
   C. Non dividing
   D. Undergo rapid division

2. Cells lining the blood capillaries are called_____.
   A. Oxyntic cells
   B. Endothelial cells
   C. Parietal cells
   D. Haemocytes

3. Chemically an antibody is_____.
   A. Nucleoprotein
   B. Lipid
   C. Carbohydrate
   D. Protein

4. Connective tissue originates from_____.
   A. Endoderm
   B. Ectoderm
   C. Mesoderm
   D. Endo-mesoderm

5. Ends of two bones are connected by_____.
   A. Muscles
   B. Tendons
   C. Ligaments
   D. Cartilage

6. Glands are composed of which of these tissue types?
   A. Epithelium
   B. Connective
   C. Muscle
   D. Nervous

7. Intercalated discs are found in_____.
   A. Between neurons
   B. In cardiac muscles
   C. At the junction of muscles and nerves
   D. In striped muscles

8. Myoglobin occurs in_____.
   A. Liver
   B. Blood
   C. Muscles
   D. Spleen

9. Sarcomere is the distance between_____.
   A. Z line and A band
   B. Two Z lines
   C. I band and H zone
   D. A and I bands

10. Which one of the following diseases is communicable?
   A. Rickets
   B. Amoebiasis
   C. Diabetes
   D. Cancer

11. Inactive cancer gene is called
   A. Transposon
   B. Proto-oncogene
   C. Tumour promoter gene
   D. Tumour suppressor gene

12. Benign tumour is the one which
   A. Shows metastasis
   B. Differentiated and capsulated
   C. Undifferentiated and non-capsulated
   D. Differentiated and non-capsulated

13. Which of the following Bt crops is being grown in India by the farmers?
   A. Maize
   B. Cotton
   C. Brinjal
   D. Soyabean

14. Perisperm differs from endosperm in :
   A. Being a haploid tissue
   B. Having no reserve food
   C. Being a diploid tissue
   D. Its formation by fusion of secondary nucleus with several sperms

15. Which of the metabolites is common to respiration mediated breakdown of fats, carbohydrates and proteins?
    A. Glucose-6-phosphate
    B. Fructose1, 6-bisphosphate
    C. Pyruvic acid
    D. Acetyl CoA

16. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is:
    A. Ectoparasitism
    B. Symbiosis
    C. Commensalism
    D. Amensalism

17. The cell-mediated immunity inside the human body is carried out by :
    A. T- lymphocytes
    B. B-lymphocytes
    C. Thrombocytes
    D. Erythrocytes

18. According to Darwin, the organic evolution is due to -
    A. Intraspecific competition
    B. Interspecific competition
    C. Competition within closely related species
    D. Reduced feeding efficiency in one species due to the presence of interfering species.

19. Which of the following cannot be detected in a developing foetus by amniocentesis?
    A. Klinefelter syndrome
    B. Sex of the foetus
    C. Down syndrome
    D. Jaundice

20. Sea Anemone belongs to phylum
    A. Protozoa
    B. Porifera
    C. Coelentrata
    D. Echinodermata

21. How many meiotic stages are essential for producing 28 cells from one cell?
    A. 7
    B. 14
    C. 28
    D. 64

22. Mammal's heart is
    A. Myogenic
    B. Neurogenic
    C. Voluntary
    D. Sympathetic

23. Xerophytic characters are present in
    A. Bryophytes
    B. Pteridophytes
    C. Gymnosperms
    D. Angiosperms

24. Meiosis II is
    A. Cell division
    B. Mitotic division
    C. Commonly cell elongation
    D. Reduction division

25. In an ecosystem, which of the following is unidirectional?
    A. Sulphur
    B. Organic nutrient
    C. Carbon
    D. Free energy

26. Which of the following ecosystem has highest annual primary productivity?
    A. Tropical deciduous forest
    B. Tropical rain forest
    C. Temperate deciduous forest
    D. Temperate evergreen forest

27. Which is the example of ex-situ conservation?
    A. National park
    B. Sanctuary
    C. Biosphere reserve
    D. Zoo

28. Wind pollination is common in:
    A. Legumes
    B. Lilies
    C. Grasses
    D. Orchids

29. Uricoteli mode of passing out nitrogenous wastes is found in :
    A. Reptiles and Bird
    B. Birds and Annelids
    C. Amphibians and Reptiles
    D. Insects and Amphibians

30. The function of leghaemoglobin in the root nodules of legumes is :
    A. inhibition of nitrogenase activity
    B. oxygen removal
    C. nodule differentiation
    D. expression of nif gene

31. The cells lining the blood vessels belong to the category of:
    A. Smooth muscle tissue
    B. Squamous epithelium
    C. Columnar epithelium
    D. Connective tissue

32. In mitochondria, protons accumulate in the
    A. Outer membrane
    B. Inner membrane
    C. Intermembrane space
    D. Matrix

33. What is common between vegetative reproduction and Apomixis
    A. Both are applicable to only dicot plants
    B. Both bypass the flowering phase
    C. Both occur round the year
    D. Both produce progeny identical to the parent

34. Common cold is not cured by antibiotics because it is
    A. caused by a virus
    B. caused by a Gram-positive bacterium
    C. caused by a Gram-negative bacterium
    D. not an infectious disease

35. Planaria possess high capacity of
    A. Metamorphosis
    B. Regeneration
    C. Alternation of generation
    D. Bioluminescence

36. Fructose is absorbed into the blood through mucosa cells of intestine by the process called
    A. Active transport
    B. Facilitated transport
    C. Simple diffusion
    D. Co-transport mechanism

37. Stimulation of a muscle fiber by a motor neuron occurs at
    A. The neuromuscular junction
    B. The transverse tubules
    C. The myofibril
    D. The sacroplasmic reticulum

38. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are same as 1 : 2: 1. It represents a case of
A. Monohybrid cross with complete dominance
B. Monohybrid cross with incomplete dominance
C. Co - dominance
D. Dihybrid cross

39. If one strand of DNA has the nitrogenous base sequence as ATCTG, what would be the complementary RNA stand sequence
A. AACTG
B. ATCGU
C. TTAGU
D. UAGAC

40. The lydig cell as found in the human body are the secretory source of
A. Glucagon
B. Androgens
C. Progesterone
D. Intestinal mucus

41. A process that makes important difference between C3 and C4 plants is
A. Photosynthesis
B. Photorespiration
C. Transpiration
D. Glycolysis

42. Guard cells differ from epidermal cells in having
A. Mitochondria
B. Vacuoles
C. Cell wall
D. Chloroplast

43. Which of the following statements is not true of two genes that show 50% recombination frequency?
A. The genes may be on different chromosomes
B. The genes are tightly linked
C. The genes show independent assortment
D. If the genes are present on the same chromosome, they undergo more than one crossovers in every meiosis.

44. The Golgi complex plays a major role :
A. in trapping the light and transforming it into chemical energy
B. in digesting proteins and carbohydrates
C. as energy transferring organelles
D. in post translational modification of proteins and glycosidation of lipids

45. A pregnant female delivers a baby who suffers from stunted growth, mental retardation, low intelligence quotient and abnormal skin. This is the result of :
   A. Deficiency of iodine in diet
   B. Low secretion of growth hormone
   C. Cancer of the thyroid gland
   D. Over secretion of pars distalis

46. Which one of the following is not the function of placenta? It :
   A. Facilitates supply of oxygen and nutrients to embryo
   B. Secretes estrogen
   C. Facilitates removal of carbon dioxide and waste material from embryo
   D. Secretes oxytocin during parturition

47. Visual area is localised in
   A. Occipital lobe
   B. Parietal lobe
   C. Frontal lobe
   D. Temporal lobe

48. Aqueous and vitreous humour are divided by
   A. Lens
   B. Iris
   C. Retina
   D. Optic nerve

49. Presence of tail in a child is an example of
   A. Atavism
   B. Mutation
   C. Divergent evolution
   D. Convergent evolution

50. *Yersinia pestis* is responsible for
   A. Syphilis
   B. Whooping cough
   C. Plague
   D. Leprosy

51. The dimensional formula for impulse is same as the dimensional formula for
   A. Momentum
   B. Force
   C. rate of change of momentum
   D. torque

52. A force of 6 newton and another of 8 newton can be applied to produce the effect of a single force equal to
A. 1 newton
B. 2 newton
C. 14 newton
D. 10 newton

53. The displacement x of a particle moving in one dimension is related to time by the equation $t = \sqrt{x} + 3$ where x is in meter and t is in second. The displacement when its velocity is zero, is
A. 0 m
B. 1 m
C. 4 m
D. 9 m

54. From the top of a tower of height 40 m, a ball is projected upwards with a speed of 20 m/sec at an angle of elevation of 30^0. Then the ratio of the total time taken by the ball to hit the ground to its time of flight (time taken to come back to the same elevation) is (take $g = 10\ m/sec^2$)
A. 2:1
B. 3:1
C. 3:2
D. 4:1

55. A body is moving with a constant speed v in a circle of radius r. Its angular acceleration is
A. v r
B. v/r
C. zero
D. $v r^2$

56. When we kick a stone we get hurt. Due to which one of the following properties of stone it happens
A. inertia
B. velocity
C. reaction
D. momentum

57.
58.
59.
60.
61

57. A space craft of mass M is moving with velocity v in free space when it explodes and breaks in two. After the explosion, a mass m of the space craft is left stationary. What is the velocity of the other part?

A. Mv/(M - m)

B. mv/(M + m)

C. mv/ (m - M)

D. (M + m) v/M

58. The minimum velocity of projection to go out from the earth's gravitational pull is called

A. terminal velocity

B. escape velocity

C. angular velocity

D. orbital velocity

59. Moment of inertia of a ring of mass M and radius R about an axis passing through the centre and perpendicular to the plane is

A. $1/2 .MR^2$

B. MR^2

C. $1/4 .MR^2$

D. $3/4 .MR^2$

60. The Young's modulus of a wire of length L and radius r is Y Newton per square meter. If the length is reduced to L/2 and radius r/2 , its Young's modulus will be

A. Y/2

B. Y

C. 2Y

D. 4Y

61. A gas undergoes a process in which the pressure P and volume V are related as VP^n=constant, the bulk modulus for the gas in the process is

A. np

B. $p^{1/n}$

C. p/n

D. p^n

62. According to Newton law of cooling, the rate of cooling of a body is proportional to $(\Delta\theta)^n$, where $\Delta\theta$ is the difference of the temperature of the body and the surroundings and n is equal to
A. 2
B. 3
C. 4
D. 1

63. The total energy of a particle, executing simple harmonic motion is
A. αx
B. αx^2
C. Independent of x
D. $\alpha x^{1/2}$

Where x is the displacement from the mean position.

64. Light travels through a glass plate of thickness t and having refractive index n. If c be the speed of light to travel through this, thickness of glass is
A. $\frac{t}{nc}$
B. tnc
C. $\frac{nt}{c}$
D. $\frac{tc}{n}$

65. In a Young's double slit experiment, two coherent sources are placed 0.90 mm apart and the fringes are observed one metre away. If it produces the second dark fringe at a distance of 1mm from the central fringe, the wavelength of monochromatic light used will be:
A. 60×10^{-4}cm
B. 10×10^{-4}cm
C. 10×10^{-5}cm
D. 6×10^{-5}cm

66. Capacitance of a capacitor is connected to become $\frac{4}{3}$ times its original value if a dielectric slab of thickness t=d/2 is inserted between the plates (d=separation between the plates).The dielectric constant will be:
A. 6
B. 8
C. 2
D. 4

67.
68.
69.
70
71

67. A point charge +q, is placed at a distance d from an isolating conducting plane. The field at a point P on other side of plane is
    A. Directly perpendicular to the plane and away from the plane
    B. Directly perpendicular to the plane but towards the plane
    C. Directed radially away from the point charge
    D. Directed radially towards the point charge

68. A long solenoid of length L has a mean diameter D. It has n layers of windings of N turns each. If it carries a current I, the magnetic field at its center will be:
    A. Proportional to D
    B. Inversely Proportional to D
    C. Independent of D
    D. Proportional to L

69. The material suitable for making electromagnets should have
    A. High retentivity and high coercivity
    B. Low retentivity and low coercivity
    C. High retentivity and low coercivity
    D. Low retentivity and high coercivity

70. Two coils are placed close to each other. The mutual inductance of the pair of coils depends upon:
    A. The rate at which the current is changing in two coils
    B. Relative position and orientation of the two coils
    C. The material of the wire of the coils
    D. The current in the two coils

71. In an AC circuit, V and I are given by

    $V=100\sin(100t)$ V and
    $I=100\sin(100t+\pi/3)$ A

    The power dissipated in the circuit is:
    A. 10^4W
    B. 2.5 KW
    C. 5 KW
    D. 10 KW

72. The rms value of the electric field of light coming from the sun is 720 NC^{-1}. The average total energy density of the electromagnetic wave is:
   A. 4.58×10^{-6} Jm^{-3}
   B. 6.37×10^{-9} Jm^{-3}
   C. 81.35×10^{-12} Jm^{-3}
   D. 3.3×10^{-3} Jm^{-3}

73. Photon of frequency ν has a momentum associated with it. If c is the velocity of light, the momentum will be:
   A. ν/c
   B. $h\nu c$
   C. $h\nu/c^2$
   D. $h\nu/c$

74. The largest wavelength in the ultraviolet region of the hydrogen spectrum is 122 nm. The smallest wavelength in the infrared region of the hydrogen spectrum (to the nearest integer) is
   A. 802 nm
   B. 823 nm
   C. 1882 nm
   D. 1648 nm

75. Zener breakdown in a semiconductor diode occurs, when
   A. Forward current exceeds certain value
   B. Reverse bias exceeds certain value
   C. Forward bias exceeds certain value
   D. Potential barrier is reduced to zero

76. Amino acids are joined by
   A. Peptide bond
   B. Hydrogen bond
   C. Ionic bond
   D. Glycosidic bond

77. The specific gravity of a crystal is influenced by which of the following defects:
   A. Colour Centre
   B. Schottky
   C. Franckel
   D. Point

78. The S. I. unit of specific resistance (ρ) is:
   A. Ohm. m^{-2}
   B. Ohm cm^{-2}
   C. Ohm^2 cm^2
   D. Ohm m

79. For one mole of gas, the Van der Waals equation will be:
   A. $\left(V + \frac{a}{P}\right)(P - b) = RT$
   B. $(P - a/V^2)(V + b) = RT$
   C. $PV = 1/3mNu^2$
   D. $(P + a/V^2)(V - b) = RT$

80. Yttrium is present in which of the following series:
   A. Transition metal
   B. Lanthanide
   C. Actinide
   D. Alkali metal

81. Hardening of natural rubber is done by:
   A. Addition Polymerization
   B. Cationic Polymerization
   C. Vulcanization
   D. Anionic Polymerization

82. For a system in equilibrium any change forward or backward would lead to:
   A. Increase in Gibbs energy
   B. Decrease in Gibbs energy
   C. First increase then decrease
   D. First decrease then increase

83. XeF_2 is:
   A. Square planar
   B. Linear
   C. Octahedral
   D. Square pyramidal

84. The units of the rate constant and rate of a reaction are identical for
   A. First order reaction
   B. Reversible reaction
   C. Second order reaction
   D. Zero order reaction

85. Sucrose is a:
   A. Monosaccharides
   B. Disaccharides
   C. Polysaccharides
   D. Triose

86. Azeotropic mixture:
A. obey Dalton's law
B. do not obey Raoult's law
C. obey Raoult's law
D. obey Henry's law

87. Carbylamine reaction is the characteristic reaction of:
A. Nitro compounds
B. Amines
C. Amides
D. Acid halides

88. Nucleoside is:
A. Base + sugar + phosphoric acid
B. Base + sugar +protein
C. Base + sugar
D. Base + protein

89. Commercially most important ore of Iron is:
A. Magnetite
B. Wustite
C. Cryolite
D. Bauxite

90. The pH of 0.2M $Ca(OH)_2$ solution is
A. 12.0
B. 12.3
C. 12.6
D. 13.6

91. An isomer of ethanol is:
A. methanol
B. Diethyl ether
C. Dimethyl ether
D. Acetone

92. Haloform reaction is the characteristic of
A. Aliphatic carboxylic acids
B. Methyl ketone
C. Ethyl aldehydes
D. Ethoxy ethers

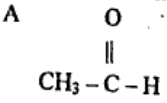
93. Electrons occupy separate orbital within same sub-shell to reduce:
A. Repulsion
B. Attraction
C. Polarity
D. Conductivity

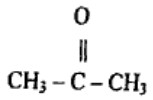
94. Ethylene diamine is an example of:
A. Ambidentate ligand
B. Multidentate ligand
C. Chelating ligand
D. Monodentate ligand

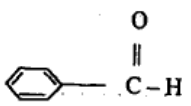
95. Which of the following is not a state function?
A. W
B. ΔG
C. ΔE
D. ΔH

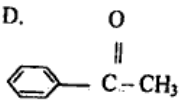
96. The moderator used in nuclear reactors:
A. Boron
B. Graphite
C. Water
D. Dry ice

97. Which of the following compounds is most reactive towards nucleophilic addition reaction?

A. 

B. 

C. 

D. 

98. Propanone is an IUPAC name of:
A. Methanol
B. Acetone
C. Acetaldehyde
D. Ethanol

99. Vitamin B is:
A. Fat soluble
B. Water soluble
C. Both of the above
D. None of the above

100. The reduction of an acid chloride to an aldehyde in presence of palladium and barium sulphate is:
A. Reimer-Tiemann reaction
B. Claisen reaction
C. Kolbe reaction
D. Rosenmund reaction