

**IM.Sc- Nursing Sciences
Entrance examination- 2010**

Hall Ticket Number

Time : 2 hours

Total marks: 75

Please read the following instructions carefully before answering.

Instructions

- 1. This booklet has 8 (Eight) pages. Please check thoroughly for all the pages.**
- 2. Enter the Hall ticket number on the first page of this booklet as well as on the OMR sheet.**
- 3. There is negative marking. For each wrong answer 0.33 marks will be deducted.**
- 4. There are two PARTS in the question paper – PART A(Question nos. 1-25) and PART B (Question nos. 26-75). In case of a tie, marks obtained in PART A will be considered for resolving the tie.**
- 5. Calculators are not permitted**

PART A

1. The route of administration of majority of the human vaccines is
A) Intra-peritoneal B) Intra-muscular C) Intra-venous D) Intra-cranial
2. Which of the following is a bacterial disease ?
A) Typhoid B) Malaria C) Rabies D) Type I Diabetes mellitus
3. Cyanide poisoning is due to
A) Degradation of hemoglobin B) Paralysis of the limbs
C) Inhibition of cellular respiration D) Decreased body resistance
4. Goitre is a disease of the
A) Liver B) Lung C) Kidney D) Thyroid

5. Which one of the following is an amino acid ?
A) Arginine B) Oxalic acid C) Gluconic acid D) Succinic acid
6. Plasma membrane of mammalian cells contain
A) Cellulose B) Chitin C) Phospholipid D) Glycogen
7. Sugar cane is a
A) Xerophyte B) Hydrophyte C) Halophyte D) Mesophyte
8. Which one of the following is used as biopesticide
A) Bacillus licheniformes B) Bacillus thuringiensis
C) Lactobacillus casei D) Rhizobium leguminosarum
9. A coenzyme is important for the
A) Stability of enzyme B) Synthesis of enzyme protein
C) Enzyme activity D) Degradation of the enzyme
10. Which one of the following exists as a spore in the soil ?
A) E. Coli B) Clostridium tetani
C) Vibrio cholerae D) Shigella flexneri
11. The hormone responsible for secondary sex characteristics in a male is
A) Progesterone B) Estrogen C) Testosterone D) Estriol
12. The human heart tissue is innervated by the following cranial nerve:
A) Optic B) Vagus C) Ocular D) Trochlear
13. The blood cell which plays an important role in phagocytosis is:
A) Lymphocyte B) Neutrophil C) Platelet D) Red blood cell
14. Hemophilia is caused due to
A) Anemia B) Low platelet count
C) Infection D) Clotting factor deficiency

15. Hormone which increases blood glucose level during fasting is:
A) Parathyroid hormone B) Oxytocin C) Glucagon D) Vasopressin
16. Aspirin does not have the following property:
A) Analgesic B) Anti-pyretic
C) Anti-inflammatory D) Anti-diuretic
17. Due to the presence of an unpaired electron, free radicals are
A) Chemically reactive B) Anions C) Chemically inert D) Cations
18. The number of hydrogen atom(s) attached to phosphorus atom in hypophosphorous acid is
A) Zero B) Two C) One D) Three
19. Which one of the following is a strong acid ?
A) Nitric acid B) Calcium sulfate C) Ammonia D) Strontium hydroxide
20. Major site of ATP synthesis in an aerobic non-photosynthetic eukaryote is
A) Lysosome B) Nucleus C) Golgi network D) Mitochondrion
21. Which one of the following is a non-essential fatty acid for humans ?
A) Linoleic acid B) Linolenic acid C) Palmitic acid D) Arachidonic acid
22. The major component of dietary fibre of humans is
A) Starch B) Fructose C) Cellulose D) Lactose
23. Synthetic isotope of hydrogen:
A) Tritium B) Protium C) Deuterium D) Quadrium
24. Element with the lowest melting and boiling point is
A) Helium B) Hydrogen C) Sodium D) Lithium
25. Which one of the following is not used as an antiseptic ?
A) Ethanol B) Iodine C) Sodium carbonate D) Hydrogen peroxide

PART B

26. Vitamin required for vision is
A) Vitamin C B) Vitamin A C) Vitamin E D) Vitamin D
27. Vegetable oil is converted to margarine by the process:
A) Auto-oxidation B) Hydrogenation
C) Methylation D) Iodination
28. Choose the correct pair:
A) Deoxyribose : RNA B) Creatine phosphate : Muscle
C) Mitochondria : Glycolysis D) Penicillin : Anti-fungal agent
29. During cell cycle, the phase in which DNA synthesis occurs is:
A) G₀ B) M C) S D) G₁
30. The average normal diastolic blood pressure of an adult human is (in mmHg):
A) 110 B) 60 C) 80 D) 120
31. When the concentration of carbon dioxide in blood decreases, the pH will be
A) Increased B) Decreased C) No change D) Neutral
32. Hormone which regulates basal metabolic rate is
A) Thyroxine B) Calcitonin C) Cortisol D) Insulin
33. Bee wax is a
A) Nucleic acid B) Carbohydrate C) Lipid D) Protein
34. Vitamin which increases calcium absorption in the human intestine is
A) Thiamine B) Vitamin D C) Biotin D) Niacin
35. Carbon tetrachloride is a
A) Antiseptic B) Antibiotic C) Hepato toxin D) Antacid

36. The vapor pressure of pure water at 100°C is
A) 760 mm Hg B) 0.1 atm C) One bar D) 0.5 atm
37. The valency of phosphorus in H_3PO_4 is
A) 2 B) 5 C) 4 D) 1
38. An example of a coordinate covalent bond is exhibited by
A) C_2H_2 B) H_2SO_4 C) NH_3 D) HCl
39. The disease in which the narrowing of the blood vessels is caused by lipid accumulation is
A) Atherosclerosis B) Vasculitis C) Varicose veins D) Thrombosis
40. Which of the following is a polar compound ?
A) HCl B) H_2Se C) CH_4 D) HI
41. What is the molar concentration when blood glucose concentration is 90 mg/ 100 ml. (Molecular weight of glucose is 180)
A) 0.5 M B) 0.05 M C) 0.005 M D) 0.02 M
42. Which one has the least penetrating power ?
A) β - rays B) α - rays C) γ - rays D) X- rays
43. The weakest acid amongst the following:
A) HF B) HCl C) HBr D) HI
44. " Amniocentesis " refers to
A) Removal of the protective membranous sac around the embryo
B) Removal of the outer developmental layer of the embryo
C) Collection of Peritoneal fluid
D) Collection of fluid from the amniotic sac
45. Which one of the following is levorotatory ?
A) Glucose B) Sucrose C) Fructose D) Maltose

- 46 . Extracellular matrix protein:
- A) Hyaluronic acid B) Heparin C) Hydroxyapatite D) Collgen
47. Visual images are processed by :
- A) Optic nerve B) Optic chiasm C) Visual cortex D) Optic tract
48. Central thermoregulatory center in humans is located in
- A) Medulla oblongata B) Cerebellum C) Hypothalamus D) Pons
49. Which one of the following vitamins is stored in the human liver ?
- A) Vitamin B6 B) Vitamin C C) Vitamin B12 D) Biotin
50. Hormone which regulates the excretion of water from the body:
- A) Gastrin B) Glucagon C) Secretin D) Vasopressin
51. Diphtheria toxin is
- A) An endotoxin B) An exotoxin C) A toxoid D) A vaccine
52. The organ with highest regenerative capacity is
- A) Heart B) Kidney C) Liver D) Brain
53. Leishmaniasis is a
- A) Bacterial infection B) Viral disease
C) Fungal infection D) Parasitic infection
54. A substance which inhibits viral multiplication is
- A) Interleukin B) Interferon C) Complement D) Albumin
55. A hospital acquired infection is called
- A) Auto infection B) Symbiosis
C) Nosocomial infection D) Pneumoconiosis
56. Choose the **correct pair** :
- A) Iodine trap : Thymus B) Vitamin A deficiency: Anemia
C) Iron deficiency : Scurvy D) Calcium deficiency : Osteoporosis

57. Calorific value of 1 gram of protein is (in Kcal)
A) 6 B) 4 C) 3 D) 9
58. Identify the **incorrect** pair:
A) Bile : Gall bladder B) Bilirubin : Photosensitive
C) Kidney : Glomerulus D) Trypsin : Endocrine pancreas
59. Which one of the following is not a plant –derived toxin ?
A) Ricin B) Abrin C) Strychnine D) Tetanus
60. A Rh (-) mother carrying a Rh (+) foetus during the second pregnancy can result in
A) Erythroblastosis foetalis B) Sickle cell anemia
C) Pernicious anemia D) Acromegaly
61. Glucose is found in the urine of diabetic individuals, since
A) Glucose is not reabsorbed in the kidney
B) The filtered glucose concentration is higher than the renal threshold
C) Glucose is secreted by the renal tubular cells
D) The filtered glucose can not be reabsorbed
62. Electrocardiogram is a record of
A) Heart beats B) Electrical conductivity of heart
C) Heart sounds D) Blood supply to the heart
63. The artery which supplies blood to heart muscle in humans is
A) Capsular B) Carotid C) Coronary D) Subclavian
64. “ Pellagra “ is caused due to the deficiency of
A) Thiamine B) Biotin C) Pantothenic acid D) Niacin
65. Fatty acid synthesis in humans mainly occurs in
A) White adipose tissue B) Liver C) Brown adipose tissue D) Spleen

66. The precursor for steroid hormones synthesis is:
- A) Cholesterol B) Calciferol C) Tocopherol D) Epinephrine
67. The types of immunoglobulins which are found in normal humans
- A) 3 B) 5 C) 4 D) 2
68. Which one of the following is a nucleoside ?
- A) Cytosine B) Uridine C) Thymine D) Guanine
69. The last part of the small intestine is called
- A) Duodenum B) Jejunum C) Ileum D) Caecum
70. The covalent bond present in a disaccharide is
- A) Glycosidic B) Phosphodiester C) Peptide D) Thioether
71. When oxalate is added to the blood sample, blood does not clot, because
- A) Proteins are precipitated B) Fibrinogen is precipitated
C) Calcium is chelated D) Red blood cells are lysed
72. The first cervical vertebra in humans is called
- A) Patella B) Axis C) Atlas D) Humerus
73. Which is the major cell type participating in allergic response in humans ?
- A) Mast cell B) Monocyte C) Eosinophil D) Basophil
74. The substance which elicits immune response *in vivo* is
- A) Immunoglobulin B) Complement C) Immunogen D) Defensin
75. Which one of the following is not a cell wall component of Gram positive bacteria ?
- A) Lipopolysaccharide B) Lipotechoic acid
C) Peptidoglycan D) Polysaccharide