

**MASTERCLASS REVISION TEST # 5****[90 Question – 50 Minutes (including OMR Filling)]****28 Chapter List for the Test**

- 1) Digestion and Absorption
- 2) Breathing and Exchange of Gases
- 3) Body Fluids and Circulation
- 4) Excretory Products and their Elimination
- 5) Locomotion and Movement
- 6) Neural Control and Coordination
- 7) Chemical Coordination and Integration
- 8) Human Reproduction
- 9) Reproductive Health
- 10) Transport in Plants
- 11) Mineral Nutrition
- 12) Photosynthesis in Higher Plants
- 13) Respiration in Plants
- 14) Plant Growth & Development
- 15) Organisms & Populations
- 16) Ecosystem
- 17) Biodiversity and Conservation
- 18) Environmental Issues
- 19) Biomolecules
- 20) Anatomy of Flowering Plants
- 21) Cell - The Unit of Life
- 22) The Living World
- 23) Animal Kingdom
- 24) Structural Organisation in Animals
- 25) Morphology of Flowering Plants
- 26) Biological Classification
- 27) Plant Kingdom
- 28) Cell Cycle and Cell Division



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1. Sterility in a male can be caused by:
  1. testosterone
  2. prolactin
  3. LH
  4. ICSH
2. Follicles are found in the ovaries and:
  1. anterior pituitary
  2. testis
  3. thyroid
  4. Pancreas
3. The basal metabolic rate is most significantly influenced by:
  1. thyroxine
  2. cortisone
  3. adrenaline
  4. Melatonin
4. Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilisation.
  1. Insulin
  2. Glucagon
  3. Secretin
  4. Gastrin
5. Which of the following ions is vital for coagulation of blood?
  1.  $\text{Na}^+$
  2.  $\text{Ca}^{2+}$
  3.  $\text{K}^+$
  4.  $\text{H}^+$
6. What is the average duration of diastole and systole in a cardiac cycle lasting 0.8 seconds?
  1. 0.3; 0.5
  2. 0.4; 0.4
  3. 0.5; 0.3
  4. 0.6; 0.2
7. How would the right heart compared to the left during one cardiac cycle?
  1. left heart pumps a lesser volume of blood than the right heart
  2. right heart contracts shortly before the left heart
  3. right heart pumps blood with less force (at lower pressure) than the left heart
  4. left heart has a shorter cardiac cycle duration than the right heart
8. Blood pressure in the pulmonary artery is
  1. more than that in the carotid
  2. more than that in the pulmonary vein
  3. less than that in the venae cavae
  4. same as that in the aorta
9. Both carbon dioxide and oxygen move across the respiratory membrane due to:
  1. gravity
  2. blood pressure
  3. diffusion
  4. active transport
10. With respect to the atmospheric air, the deoxygenated blood flowing into lung capillaries has a higher concentration of:
  1. oxygen
  2. both carbon dioxide and oxygen
  3. water
  4. carbon dioxide

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11. A vertebrate osmoconformer is:
1. reptile
  2. freshwater fish
  3. dolphin
  4. Hagfish
12. The urine concentrating ability of mammals and birds is correlated with the length of their:
1. ureters
  2. proximal convoluted tubules
  3. distal convoluted tubules
  4. loops of Henle
13. Which one of the following is not a part of a renal pyramid?
1. Convoluted tubules
  2. Collecting ducts
  3. Loops Henle
  4. Peritubular capillaries
14. The peripheral nervous system in humans PNS consists of cranial nerves and:
1. spinal cord
  2. sensory nerves
  3. the brain
  4. spinal nerves
15. The neuron in humans with many nerve fibers arising from its cell body and that carries impulses to the effectors would be called as:
1. multipolar
  2. bipolar
  3. unipolar and sensory
  4. multipolar and motor
16. The organ converts one energy form into another would be called as:
1. effector
  2. transducer
  3. generator
  4. receptor
17. Photosensitive compound in human eye is made up of
1. opsin and Retinal
  2. opsin and Retinol
  3. transducin and Retinene
  4. guanosine and Retinol
18. The presence of stones in the gallbladder is referred to as:
1. cholecystitis
  2. cholecystectomy
  3. cholelithiasis
  4. cholesterol calculi
19. After digestion, monoglycerides and fatty acids associate with bile salts and phospholipids to form:
1. chylomicrons
  2. micelles
  3. globules
  4. Lipoproteins
20. Ovulation occurs \_\_\_\_ days prior to the onset of the next cycle.
1. 1

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2. 7
  3. 14
  4. 21
21. Non primate mammalian females have:
1. a follicular cycle
  2. an estrous cycle
  3. a menstrual cycle
  4. a luteal cycle
22. The first structure amongst the following to receive sperms would be:
1. vas deferens
  2. urethra
  3. epididymis
  4. seminal vesicle
23. Which of the following guards the opening of hepatopancreatic duct into the duodenum?
1. Ileocaecal valve
  2. Pyloric sphincter
  3. Sphincter of Oddi
  4. Semilunar valve
24. Name the chronic respiratory disorder caused mainly by cigarette smoking
1. asthma
  2. respiratory acidosis
  3. respiratory alkalosis
  4. Emphysema
25. The opening in a vertebra that is formed by a neural arch and back portion of a vertebral body and through which the spinal cord passes is called as:
1. intervertebral foramen.
  2. vertebral canal.
  3. vertebral foramen.
  4. foramen magnum
26. The number of pairs of vertebrosteral ribs in humans are:
1. 3
  2. 2
  3. 7
  4. 10
27. Situated between the two hip bones of the pelvis, sacrum is a triangular bone in the lower back formed from fusion of:
1. 3 vertebrae
  2. 5 vertebrae
  3. 7 vertebrae
  4. 12 vertebrae
28. Which of the following is not a function of the skeletal system?
1. Production of erythrocytes
  2. Storage of minerals
  3. Production of body heat
  4. Locomotion
29. Identify the correct statement on 'inhibin'
1. Is produced by granulosa cells in ovary and inhibits the secretion of FSH
  2. Is produced by granulosa cells in ovary and inhibits the secretion of LH
  3. Is produced by nurse cells in testes and inhibits the secretion of LH
  4. Inhibits the secretion of LH, FSH and prolactin
30. Amenorrhea is:
1. Abnormal menstruation
  2. Excess menstruation

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3. Absence of menstruation

4. Scanty menstruation

31. Lactational amenorrhea method of contraception is based on the fact that:

1. Ovulation and menstrual flow does not occur post conception during intense lactation
2. The cervix mucus becomes hostile to sperms after parturition during intense lactation
3. Ovulation and menstrual flow does not occur post partum during intense lactation
4. The endometrium is reabsorbed rather than sloughed off during intense lactation

32. Lactational amenorrhea is effective up to a maximum period of:

1. 3 months
2. 6 months
3. 9 months
4. 12 months

33. Which one of the following elements in plants is not remobilised?

1. Calcium
2. Potassium
3. Sulphur
4. Phosphorus

34. For imbibition to occur, affinity between the adsorbant and the liquid is:

1. not essential
2. not essential since imbibition is also a diffusion
3. not essential if occurring against the concentration gradient
4. a pre-requisite

35. Consider the following statements:

- I. In diffusion, different substances move independently of one another depending on their individual concentration gradients.
- II. Similarly, in bulk transport, different substances move independently of one another depending on their individual concentration gradients.
- III. Bulk flow can be achieved either through a positive hydrostatic pressure or through a negative hydrostatic pressure.

Correct statements are:

1. I, II, III
2. I and II
3. I and III
4. II and III

36. In context of amniocentesis, which of the following statement is incorrect?

1. It is used for prenatal sex determination
2. It can be used for detection of down syndrome
3. It can be used for detection of cleft palate
4. it is usually done when a woman is between 14-16 weeks pregnant

37. A nitrogen fixing microbe associated with Azolla in rice fields is

1. *Spirulina*
2. *Anabaena*
3. *Frankia*
4. *Tolypothrix*

38. Identify the element required by plants for utilization of calcium and pollen germination:

1. Iron
2. Sulfur

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3. Boron  
4. Zinc
39. The deficiency symptoms of which of the following tend to first appear in young tissues?
1. Nitrogen
  2. Potassium
  3. Calcium
  4. Magnesium
40. In a chloroplast the highest number of protons are found in
1. lumen of thylakoids
  2. inter membrane space
  3. antenna complex
  4. Stroma
41. In Section 13.7 NCERT says that “immediately after light becomes unavailable, the biosynthetic process continues for some time and then stops”. Why does it stop after some time?
1. The respiration stops in the absence of light and hence synthesis of sugars is stopped
  2. The reactions of the biosynthetic phase are directly dependent on light
  3. The reactions of the biosynthetic phase are dependent on the products of light reaction
  4. This is a mistake in NCERT as Dark Reactions will continue throughout night
42. This is an intext question in Section 13.7.1 NCERT. How many carbon atoms does the primary carbon dioxide acceptor have in  $C_3$  photosynthesis?
1. 2
  2. 3
  3. 4
  4. 5
43. Which of the metabolites is common to respiration mediated breakdown of fats, carbohydrates and proteins?
1. Glucose-6-phosphate
  2. Fructose 1, 6, biphosphate
  3. Pyruvic acid
  4. Acetyl Co-A
44. Refer Section 14.4.1, NCERT. The continued oxidation of acetyl CoA via the TCA cycle requires the continued replenishment of:
- I. Oxalaacetic acid
  - II.  $NAD^+$
  - III. FAD
1. I and II only
  2. I and III only
  3. II and III only
  4. I, II and III
45. At how many points in the TCA cycle is  $NAD^+$  reduced to  $NADH + H^+$ ?
1. 2
  2. 3
  3. 4
  4. 6
46. What causes a green plant exposed to the light on only one side, to bend toward the source of light as it grows?
1. Green plants need light to perform photosynthesis
  2. Green plants seek light because they are phototropic

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3. Light stimulates plant cells on the lighted side to grow faster
4. Auxin accumulates on the shaded side, stimulating greater cell elongation
47. The growth in plants can be best expressed as [refer Section 15.2]:
1. Open
  2. Determinate
  3. Closed
  4. Redundant
48. Development is term that includes all changes that a plant goes through during its life cycle:
1. till germination of the seed
  2. during its vegetative growth
  3. from germination till flowering
  4. from germination to senescence
49. Two opposite forces operate in the growth and development of every population. One of them relates to the ability to reproduce at a given rate. The force opposing it is called.
1. Morbidity.
  2. Fecundity.
  3. Biotic potential.
  4. Environmental resistance.
50. Organisms that are tolerant of a wide range of salinity are called:
1. Stenohalines
  2. Euryhalines
  3. Halophytes
  4. Stenothermals
51. Small plants [herbs and shrubs], growing in forests, are usually adapted to photosynthesize optimally under:
1. Very high light conditions
  2. Very low water conditions
  3. Very high water conditions
  4. Very low light conditions
52. Highest value in  $\text{g/m}^2/\text{yr}$  of a grassland ecosystem would be (AIPMT 2004)
1. Gross primary production
  2. Net primary production
  3. Secondary production
  4. Tertiary production
53. Humus:
1. Is easily broken down by microbes
  2. Undergoes decomposition rapidly
  3. Serves as reservoir of nutrients
  4. Yields organic nutrients on mineralization
54. Decomposition of detritus is rapid when:
1. It is rich in lignin and chitin
  2. Ambient temperature is low
  3. Environment favors anaerobiosis
  4. It predominantly contains nitrogen and sugars
55. Which one is odd combination of habitat and particular animal (AIPMT 2007)
1. Sunderbans– Bengal Tiger
  2. Periyar–Elephant
  3. Rann of Kutch–Wild Ass
  4. Dachigam National Park – Snow Leopard

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56. What exotic introduction is threatening indigenous catfishes in our rivers?

1. *Carassius auratus*
2. *Carcinus maenas*
3. *Centaurea solstitialis*
4. *Clarias gariepinus*

57. Which group of the following has the maximum % age of species facing threat of extinction?

1. Amphibians
2. Birds
3. Mammals
4. Gymnosperms

58. Which one of the following is mismatched? (AIPMT 2005)

1. Fossil fuel burning - Release of CO<sub>2</sub>
2. Nuclear power - Radioactive wastes
3. Solar energy - Green house effect
4. Biomass burning - Release of CO<sub>2</sub>

59. Which of the following is implicated in the causation of skin cancers and snow-blindness cataracts in humans?

1. UV – A
2. UV – B
3. UV – C
4. None of these

60. The normal greenhouse effect is necessary for survival of life on Earth as it has raised the temperature of Earth's surface by:

1. - 18°C
2. 15°C
3. 33°C
4. 50°C

61. ATP is a

1. nucleotide

2. nucleosome

3. nucleoside

4. purine

62. Adenine and guanine are:

1. Substituted purines
2. Substituted pyrimidines
3. Deoxyribonucleosides
4. Ribonucleotides

63. The first amino acid in the primary structure of a protein is termed as:

1. C – terminus amino acid
2. N – terminus amino acid
3. An imino acid
4. Alpha amino acid

64. In chloroplasts the chlorophyll is located in (AIPMT-2005)

1. Stroma
2. Grana
3. Pyrenoid
4. Both 1 and 2.

65. A 'slime layer' or a 'capsule' is a modification of which of the following layers of the cell envelope of a prokaryotic cell?

1. Glycocalyx
2. Cell wall
3. Lipoprotein layer
4. Cell membrane

66. Mesosomes, extensions of plasma membrane in bacterial cells, help in all the following except:

1. Cell wall formation



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2. DNA replication and distribution to daughter cells

3. Respiration

4. Photosynthesis

67. One of the most important functions of botanical gardens is that [AIPMT 2004]

1. one can observe tropical plants there

2. they allow ex situ conservation of germplasm

3. they provide the natural habitat for wildlife

4. they provide a beautiful area for recreation

68. Which of the following is a defining characteristic of living organisms?

1. Growth

2. Ability to make sound

3. Reproduction

4. Response to external stimuli

69. Match the following and choose the correct option:

A. Family i. tuberosum

B. Kingdom ii. Polemoniales

C. Order iii. Solanum

D. Species iv. Plantae

E. Genus v. Solanacea

Options:

1. i-D, ii-C, iii-E, iv-B, v-A

2. i-E, ii-D, iii-B, iv-A, v-C

3. i-D, ii-E, iii-B, iv-A, v-C

4. i-E, ii-C, iii-B, iv-A, v-D

70. What is true about Nereis, scorpion, cockroach and silver fish ? (AIPMT 2007)

1. They all possess dorsal heart

2. None of them is aquatic

3. They all belong to the same phylum

4. They all have jointed paired appendages

71. "Amniotes" do not include:

1. Amphibians

2. Reptiles

3. Birds

4. Mammals

72. The presence of mutable collagenous tissue is an important feature of:

1. Annelida

2. Echinodermata

3. Porifera

4. Mollusca

73. Which cartilage is present at the end of long bones? [AIPMT 2002]

1. Calcified cartilage

2. Hyaline cartilage

3. Elastic cartilage

4. Fibrous cartilage

74. Osteocytes [bone cells] are present in spaces called:

1. Osteon

2. Lamellae

3. Haversian canals

4. Lacunae

75. Smooth muscles are:

1. Voluntary and striated

2. Voluntary and unstriated

3. Involuntary and unstrained

4. Involuntary and striated

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76. Cambium found in vascular bundles of dicot stem is (AIPMT-2000)

1. Intercalary meristem
2. Fascicular cambium
3. Secondary meristem
4. All of the above

77. Root hairs develop from the region of: (NEET-2017)

1. Maturation
2. Elongation
3. Root cap
4. Meristematic activity

78. Azolla has a symbiotic relationship with (AIPMT-2004)

1. Chlorella
2. Anabaena
3. Nostoc
4. Tolypothrix

79. Cycas has two cotyledons but is not included under angiosperms because it has (AIPMT-2001)

1. Circinate ptyxis
2. Compound leaves
3. Monocot like stem
4. Naked seeds.

80. If you are provided with root-tips of onion in your class and are asked to count the chromosomes, which of the following stages can you most conveniently look into? (AIPMT 2004)

1. Telophase
2. Anaphase

3. Prophase
4. Metaphase

81. All the following characteristics differentiate stems from the roots except:

1. Development from the plumule
2. Presence of nodes and internodes
3. Terminal or axillary buds
4. Endogenous development of branches

82. Stems contain chlorophyll and carry out photosynthesis in:

1. Opuntia and Euphorbia
2. Mint and Jasmine
3. Pistia and Eichhornia
4. Banana and Pineapple

83. Regarding the guard cells:

1. walls away from the stomatal pores are thin and those towards the stomatal pores are thick
2. walls away from the stomatal pores are thick and those towards the stomatal pores are thin
3. chloroplasts are mostly absent
4. play no role in the regulation of opening and closing of stomata

84. A simple plant tissue is characterized by:

1. continued cell division
2. presence of only living cells
3. cells with chloroplasts
4. presence of only one type of cells

85. The centrosome duplicates during:

1. Early Prophase
2. Late prophase
3. S phase
4. G<sub>2</sub> phase

86. The two asters together with spindle fibers form the:

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1. Centrosome
2. Mitotic apparatus
3. Kinetochore
4. Chiasmata

87. Difference between Virus and Viroid is

1. Absence of protein coat in viroid but presence of virus
2. Presence of low molecular weight RNA in virus but absence in viroid
3. Both 1 and 2
4. None of the above

88. With respect to fungal sexual cycle, choose the correct sequence of events

1. Karyogamy, Plasmogamy and Meiosis
2. Meiosis, Plasmogamy and Karyogamy
3. Plasmogamy, Karyogamy and Meiosis
4. Meiosis, Karyogamy and Plasmogamy

89. Protonema is

1. Haploid and is found in mosses
2. Diploid and is found in liverworts
3. Diploid and is found in pteridophytes
4. Haploid and is found in pteridophytes

90. The giant Redwood tree (*Sequoia sempervirens*) is a/an

1. Angiosperm
2. Free fern
3. Pteridophyte
4. Gymnosperm