1. Lac is a product of
   (A) Faecal matter (B) Secretion from the body
   (C) Excretion from the body (D) Excess food oozing out of the body

2. Bees are particularly sensitive to
   (A) Re color (B) Green color (C) Ultraviolet light (D) No color

3. The main controlling centre of the cell is the
   (A) Nucleus (B) Mitochondria (C) Ribosome (D) Chloroplast

4. Darwin’s concepts of evolution
   (A) Are accepted today in toto
   (B) Have been completely refused
   (C) Rejected the inheritance of acquired characters
   (D) Are the basis of modern theory of evolution

5. Genetics is the study of
   (A) Cell division (B) Growth and differentiation
   (C) Reproduction (D) Mechanisms of inheritance

6. Normally a balanced diet should be able to provide about
   (A) 2,500 calories per day (B) 3,000 calories per day
   (C) 3,500 calories per day (D) 4,000 calories per day

7. The culture of silkworms is known as
   (A) Apiculture (B) Horticulture (C) Pisciculture (D) Sericulture

8. The percentage of water content in the human blood plasma normally varies from
   (A) 60 – 64 (B) 70 – 75 (C) 80 – 82 (D) 91 – 92

9. The element which is rich in most leafy vegetables is
   (A) Phosphorous (B) Zinc (C) Iron (D) Calcium

10. Antibiotics can destroy viruses is
11. What is the main component of bones and teeth?
   (A) Calcium carbonate  (B) Calcium phosphate  
   (C) Calcium sulphate    (D) Calcium nitrate

12. Night blindness is caused due to deficiency of
   (A) Vitamin A    (B) Vitamin B  (C) Vitamin K  (D) Vitamin E

13. The blood enters the aorta from
   (A) Left ventricle  (B) Left auricle  
   (C) Right ventricle (D) Right auricle

14. In eye donation, which one of the following parts of donor’s eye is utilized?
   (A) Iris   (B) Lens  (C) Comea  (D) Retina

15. In scorpion, poison is present in the
   (A) Leg  (B) Hand  (C) Mouth  (D) Sting

16. Which sequence explains complete metamorphosis?
   (A) Egg – Larva – Adult   (B) Larva – Pupa – Adult
   (C) Egg – Nymph – Adult   (D) Egg – Larva – Pupa – Adult

17. The function of Pace – maker is
   (A) Regulation of urine formation  (B) Regulation of digestion
   (C) Initiation of heartbeat       (D) Initiation of respiration

18. How many bone are there in a human body?
   (A) 206  (B) 208  (C) 210  (D) 212

19. Depletion of ozone layer is caused by
   (A) Chloro fluro carbon  (B) Nitrous oxide
   (C) Nitrogen oxide      (D) All of these

20. A scientist kept 72 generations of Drosophila in darkness. Even after 72 generations, flies had normal eyes. This disapproves the theory of
   (A) Natural selection  (B) Sexual selection
21. In Bonellia, a marine worm, the male develops from a larva which
   (A) Settles in the canal of sponges    (B) Attaches to the uterus of female
   (C) **Settles in the long proboscis of female**    (D) Secretes a chemical substance

22. Spermatids derive the nourishment from
   (A) Nucleus    (B) Cytoplasm    (C) Ciliated epithelia cell    (D) Sertoli cell

23. Acid rain results from
   (A) Thermal pollution    (B) Land pollution
   (C) **Air pollution**    (D) Radioactive pollution

24. An ecosystem consists of
   (A) A living community and its environment
   (B) All the plants and animals of an area
   (C) Carnivores and herbivores of an area
   (D) Producers, consumers and decomposers in a particular locality

25. Which groups of blood is suitable to all?
   (A) A    (B) B    (C) AB    (D) O

26. Waterborne disease is
   (A) Jaundice    (B) Malaria    (C) Wooping cough    (D) Typhoid

27. To which animal the word ‘Murrah’ is referred?
   (A) Cow    (B) Horse    (C) **Buffalo**    (D) Goat

28. AIDS is caused by
   (A) Bacteria    (B) Protozoa    (C) Helminth    (D) **Virus**

29. Match list I (Pathogens) correctly with list II (Disease) and select your answer using the codes given below:

   List-I  List-II
   (Pathogens)  (Disease)
   (a) Endamoeba histolytica   1. Whooping cough
   (b) Clostridium tetani   2. Amoebiasis
(c) Bordetella pertussis 3. Filariasis  
(d) Wuchereria bancrofti 4. Tetanus

Codes:

\[
\begin{array}{cccc}
  & a & b & c & d \\
(A) & 2 & 4 & 1 & 3 \\
(B) & 2 & 4 & 3 & 1 \\
(C) & 4 & 2 & 1 & 3 \\
(D) & 2 & 1 & 3 & 4 \\
\end{array}
\]

30. Which of the following is correctly matched?

(A) Helps in breathing - Stomach  
(B) Stores R.B.C. - Spleen  
(C) Stores glycogen - Diaphragm  
(D) Protein digestion occurs here - Liver

31. Oxytocin is secreted by

(A) Adrenal gland  (B) Pituitary gland  (C) Ovary  (D) Testis

32. Which of the following is correctly matched?

(A) Coeloblastula - Bilateral symmetry  
(B) Disco blastula - Pig embryo  
(C) Placenta - Extra embryonic membrane  
(D) Epiboly - Movement of cells during embryo formation

33. Consider the following statements:

Assertion (A): A better treatment for loss of kidney function is kidney transplant rather than dialysis.

Reason (R): Dialysis cannot perform all the functions of the kidney

(A) Both (A) and (R) are correct  
(B) (A) is correct, but (R) is incorrect  
(C) (A) is incorrect, but (R) is correct  
(D) Both (A) and (R) are incorrect

34. Which of the following hormones is responsible for the emotional states such as fear, anger and tension and a rise in blood pressure and heart rate?
35. Gene mutation takes place in
   (A) Dioxiribose nucleic acid (B) Mitochondrion
   (C) Chloroplast (D) Ribosome

36. Consider the following statements:
   Assertion (A): Group ‘O’ blood can be given to patients of any blood group.
   Reason (R): This blood group has no antigens.

   Select your answer according to the coding scheme given below:
   (A) Both (A) and (R) are true, and (R) is the correct explanation of (A)
   (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
   (C) (A) is true, but (R) is false
   (D) (A) is false, but (R) is true

37. The children of a color blind mother and a normal father will be
   (A) Normal daughters and sons
   (B) Normal sons and carrier daughters
   (C) Color blind sons and carrier daughters
   (D) Color blind sons and daughters

38. The blood which leaves the liver and moves to the heart has a higher concentration of
   (A) Glucose (B) Bile (C) Bile pigments (D) Urea

39. Which part of the human brain is the centre of memory, learning, thinking and reasoning?
   (A) Cerebrum (B) Cerebellum
   (C) Hypophysis (D) Medulla oblongata

40. Mark the correct statements:
   (A) All sperms fertilize all eggs
   (B) Eggs are fertilized by many sperms
   (C) Each egg is usually fertilized by one sperm
   (D) Each sperm fertilizes one egg

41. Mark the correct statements:
   (A) Foramen magnum is in the skull
(B) Foramen magnum is an aperture in the heart

(C) Foramen magnum is a large hole in the voice box

(D) Foramen magnum does not exist anywhere

42. Maggot is the larva of

(A) Mosquito   (B) Cockroach   (C) Housefly   (D) Butterfly

43. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Trypanosoma gambiense</td>
<td>1. Malaria</td>
</tr>
<tr>
<td>(b) Leishmania donovani</td>
<td>2. Diarrhoea</td>
</tr>
<tr>
<td>(c) Plasmosium ovale</td>
<td>3. Sleeping sickness</td>
</tr>
<tr>
<td>(d) Trichomonas hominis</td>
<td>4. Kala azar</td>
</tr>
</tbody>
</table>

Codes:

a   b   c   d

(A)  3  4  1  2

(B)  4  1  2  3

(C)  3  1  2  4

(D)  4  1  3  2

44. Which one of the following is correctly matched?

(A) Charles Darwin - Theory of pangenesis

(B) De Vries - Cell theory

(C) Lamarck - Theory of mutation

(D) Spencer - Theory of inheritance of acquired characters

45. Archaeopteryx is a connecting link of the following animals.

(A) Pisces and Amphibians   (B) Amphibians and Reptiles

(C) Reptiles and Aves       (D) Aves and Mammals

46. Arthropods are special animals as they

(A) Have haemocoel   (B) Have segmented body

(C) Have colourless blood   (D) Do not have cilla
47. If an amoeba is placed in salt water, its contractile vacuole will
   (A) Enlarge  (B) Burst  (C) Multiply  (D) Disappear

48. Match list-I with list-II correctly and select your answer using the codes given below:

   List-I                                      List-II
   (a) Lung fish                               1. Sphenodon
   (b) Flying reptile                         2. Protopterus
   (c) Living fossil                           3. Porpoise
   (d) Aquatic mammal                         4. Dracovolans

   Codes:
   a  b  c  d
   (A) 3 1 2 4
   (B) 2 4 1 3
   (C) 1 3 4 2
   (D) 4 2 3 1

49. The substituted food contains one of the following.
   (A) Fat  (B) Water  (C) Carbohydrate  (D) Protein

50. When aerobic and anaerobic methods of respiration are compared regarding their efficiency in energy release
   (A) Aerobic method is more efficient than anaerobic method
   (B) Anaerobic method is more efficient than aerobic method
   (C) Both the methods are exactly equal
   (D) Both the methods are approximately equal

51. Which one of the following is incorrectly matched?

   Common Name Scientific name
   (A) Jelly fish - Anabas
   (B) Silver fish - Lepisma
   (C) Lung fish - Cycloid scales
   (D) Cuttle fish - Sepia

52. Which of the following is the test for histochemical characterization of carbohydrates?
(A) Mercuric bromophenol blue method

(B) Best carmine method

(C) Periodic acid – Schiff method

(D) Sudan black – B method

53. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Vitamin A</td>
<td>1. Antirachitic</td>
</tr>
<tr>
<td>(b) Vitamin B</td>
<td>2. Antisterilitic</td>
</tr>
<tr>
<td>(c) Vitamin D</td>
<td>3. Antixer ophthalmic</td>
</tr>
<tr>
<td>(d) Vitamin E</td>
<td>4. Antineutric</td>
</tr>
</tbody>
</table>

Codes:

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

(A) 3 4 1 2

(B) 2 3 4 1

(C) 4 2 3 1

(D) 3 1 2 4

54. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Free martins</td>
<td>1. Spemann</td>
</tr>
<tr>
<td>(b) Organizers</td>
<td>2. Steptoe and Edwards</td>
</tr>
<tr>
<td>(c) Rh – factors</td>
<td>3. Lillie</td>
</tr>
<tr>
<td>(d) Test tube babies</td>
<td>4. Landsteiner and Weiner</td>
</tr>
</tbody>
</table>

Codes:

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

(A) 2 1 4 3

(B) 3 2 1 4

(C) 4 1 2 3

(D) 3 1 4 2

55. The phenomenon where animals undergo dormancy to escape from excessive heat is called

(A) Diapause

(B) Aestivation **(Correct Answer)**

(C) Hibernation

(D) Cyclomorphosis
56. The number of segments in Leech is
   (A) 26 (B) 33 (C) 44 (D) 120

57. Which one of the sponges is harmful to the Oyster industry?
   (A) Spongilla (B) Hylonema (C) Euspongia (D) Cliona

58. Terrestrial insects produce
   (A) Urea (B) Ammonia (C) Hippuric acid (D) Uric acid

59. The most valuable pearl is produced by
   (A) Mytilus (B) Unio (C) Meleagrina (D) Ostrea virginiana

60. Mark the correct one.
   (A) Miracidium, sporocyst, cercaria, redia, metacercaria
   (B) Cercaria, sporocyst, redia, miracidium, metacercaria
   (C) Miracidium, sporosyst, redia, cercaria, metacercaria
   (D) Cercaria, sporocyst, miracidium, rediam netacercaria

61. Glochidium is the larva of
   (A) Aurelia (B) Freshwater mussel (C) Prawn (D) Sponge

62. Haversian canals are found in
   (A) Cartilages (B) Water vascular system
   (C) Long bones of mammals (D) Spinal cord

63. Adenophysis is a part of
   (A) Kidney (B) Pituitary (C) Pancreas (D) Thyroid

64. Consider the statements:
   I. Mitochondria produce adenosine triphosphate
   II. Mitochondria produce adenosine diphosphate
   III. Mitochondria produce glucose
   IV. Mitochondria produce proteins

   Of these statements:
65. The normal cholesterol level in human blood is
(A) 80 – 120 mg%  (B) 120 – 140 mg%  (C) 180 – 200 mg%  (D) 220 – 240 mg%

66. Identical twins result
(A) From the early division of a single zygote
(B) From two different fertilized eggs
(C) From an egg fertilized by 2 spermatozoa
(D) From simultaneous fertilization of several eggs

67. Consider the following statements:
Assertion (A): Pasteurisation is a process of sterilization for killing the pathogens in a liquid food.
Reason (R): It is done by cooling at a very low temperature.
Select your answer according to the coding scheme given below:
(A) Both (A) and (R) are true, and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true

68. Consider the statements:
The ants make their path on a definite direction in a perfect manner. It is due to
I. the sense of touch  II. the sense of smell
III. the sense of vision  IV. the sense of intelligence
(A) I alone is correct  (B) II alone is correct
(C) I, II & III are correct  (D) All are correct

69. Organism that lives at the air – water interface is called
(A) Benthos  (B) Nekton  (C) Neuston  (D) Plankton

70. Match list-I with list-II correctly and select your answer using the codes given below:
List-I  List-II

Learning Leads To Ruling
(a) Tse Tse fly 1. Yellow fever
(b) Aedes mosquito 2. Sleeping sickness
(c) Water snail 3. Biharzia
(d) Sand flies 4. Kala - azar

Codes:

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

71. Which of the following human fossils was found in India?

(A) Homobengalensis  
(B) Australopithecus  
(C) Ramapithecus  
(D) Homohabilis

72. The most primitive Mollusca is

(A) Chiton  
(B) Neopilina  
(C) Patella  
(D) Unio

73. The four major poisonous snakes in India are

(A) Cobra, Russell’s viper, Krait and Rat snake  
(B) King cobra, Sea snake, Cobra and Saw-scaled viper  
(C) Saw-scaled viper, Russell’s viper, Krait and Cobra  
(D) Banded Krait, Python, Cobra and Pit viper

74. Mark the correct statement:

(A) Mammals have mammary glands, hair, pinna, nails  
(B) Mammals have mammary glands, pinna, pectan, hairs  
(C) Mammals have mammary glands, pinna, teeth, hairs, diaphragm  
(D) Mammals have mammary glands, teeth, pinna, sinus venosus

75. Plasmodium vivax causes

(A) Quartan fever  
(B) Benign fever  
(C) Malignant malaria  
(D) Mild malaria
76. Which are the two bones that participate in the ball and socket joint of the forelimb in man?

(A) Clavicle and Scapula  
(B) Ulna and Clavicle  
(C) Humerus and Scapula  
(D) Humerus and Clavicle

77. Mark the correct statement:

(A) The central cavity of Hydra is centrocoel  
(B) The central cavity of Hydra is gastrocoel  
(C) The central cavity of Hydra is coelenteron  
(D) The central cavity of Hydra is gastrovascular cavity

78. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Vegetal pole</td>
<td>1. Cell of blastula</td>
</tr>
<tr>
<td>(b) Blastomere</td>
<td>2. Development without fertilization</td>
</tr>
<tr>
<td>(c) Parthenogenesis</td>
<td>3. Echinoderm egg</td>
</tr>
<tr>
<td>(d) Janus green</td>
<td>4. Yolk</td>
</tr>
</tbody>
</table>

Codes:

- a  b  c  d
- (A) 1  3  4  2
- (B) 3  1  2  4
- (C) 4  1  2  3
- (D) 3  2  1  4

79. Blood clotting means that

(A) Fibrinogen changes into fibrin  
(B) Red blood corpuscles die  
(C) White blood corpuscles die  
(D) None of these

80. Identify the correct sequence of the Pacemaker system in human heart.

(A) A.V. node – S. A. node – Purkinji system – Bundle of His  
(B) A.V. node – S. A. node – Bundle of His – Purkinji system  
(C) S.A. node – A.V. node – Bundle of His – Purkinji system  
(D) S.A. node – A.V. node – Purkinji system – Bundle of His
81. Consider the following statements:

Assertion (A): In man urine is filtered in malpighian capsule.

Reason (R): Colloidal osmotic pressure of blood protein is responsible for urine filtration.

Now select your answer according to the coding scheme given below:

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true

82. Consider the statements:

I. Haemoglobin is a blood pigment of vertebrates
II. Haemoglobin is an oxygen carrier
III. Haemoglobin is a carbohydrate
IV. Haemoglobin is blue in color

Of these statements:

(A) I alone is correct
(B) I and II are correct
(C) I, II and III are correct
(D) All are correct

83. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Sex – linked inheritance</td>
<td>1. Brachyphalangy</td>
</tr>
<tr>
<td>(b) Lethal genes</td>
<td>2. Turner</td>
</tr>
<tr>
<td>(c) Aneuploidy</td>
<td>3. Alkaptonuria</td>
</tr>
<tr>
<td>(d) Mutation</td>
<td>4. Colour blindness</td>
</tr>
</tbody>
</table>

Codes:  

(a) b c d

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

84. Which one of the following is correctly matched?

(A) Producer - Deer  (B) Primary consumer - Leopard
(C) Secondary consumer - Grass  (D) Decomposer - Bacteria
85. The total organic matter present in an ecosystem is referred to as the
   (A) Bio – mass   (B) Bio – sphere   (C) Biome   (D) Bio – coenosis

86. Identify the ectoparasite
   (A) Taenia   (B) Entamoeba   (C) Ascaris   (D) Hirudinaria

87. Digestive products of fat are
   (A) Fatty acids & glycerols   (B) Chylomicrons
   (C) Triglycerides   (D) Neutral fats

88. Tendons attach
   (A) Muscle to bone   (B) Bone to bone
   (C) Organs to one another   (D) None of these

89. Rh – blood grouping was first identified by
   (A) Howell   (B) Bateson   (C) Weiner   (D) Hugo de Vries

90. Movement of organisms in relation to water current is called
   (A) Thigmotaxis   (B) Rheotaxis   (C) Kinesis   (D) Tropism

91. Bile is secreted by
   (A) Liver   (B) Bile duct   (C) Gall bladder   (D) Pancreas

92. The apparatus used to hear heart sound is
   (A) Stethoscope   (B) Sphygmomanometer
   (C) Ludwig manometer   (D) Cardiogram

93. “Mutation” theory was proposed by
   (A) Darwin   (B) Morgan   (C) Lamarck   (D) Hugo de Vries

94. It appears that man’s closet living relatives are the
   (A) Anthropoid apes   (B) Old world monkeys
   (C) New world monkeys   (D) None of these

95. Acromegaly is caused by irregular secretion of
   (A) Pituitary   (B) Thyroid   (C) Adrenal   (D) Pancreas
96. The ABO blood groups were discovered by
(A) Charles Darwin   (B) Gregor Mendel   (C) Karl Landsteiner   (D) Watson

97. Identical twins are born when
(A) Two sperms fertilize two ova
(B) Two sperms fertilize one ovum
(C) One sperm fertilize one ovum
(D) One sperm fertilizes one ovum. Zygote cleaves into two cells that develop independently

98. The food which gives an athlete instant energy is
(A) Glucose   (B) Butter   (C) Protein   (D) Vitamin

99. The largest living animals belong to the group
(A) Birds   (B) Fishes   (C) Reptiles   (D) Mammals

100. The term “Cloning” is related with
(A) Environment   (B) Genetics   (C) Space technology   (D) Trade