Entrance examination for grade 12 from 1995 – 2011

Grade 12 Unit 1

Microorganisms

1, Which of the following is the mode of genome replication in AIDS virus?

A, DNA → DNA B, RNA → DNA C, DNA → RNA D, RNA → DNA → RNA

2, Select the alternative that contains only vector borne infections

A, Malaria , Trachoma, Syphilis, Tapeworm

B, Malaria, Leishmaaniasis, Trypanosomiasis, Typhus

C, Diphtheria, Tuberculosis, Cholera, Meningitis

D, Leprosy, ring worm, Pneumonia, hook worm

3, Which of the following groups probably ate more of herbivorous diet?

A, Homo erectus B, Homo Habilis C, Cro- magnon humans D, Australopithecus afarensis

4, Which of the following disease of animal would be controlled if one is able to control tse tse fly?

A, Hart water B, Rinder pest C, Trypanosomiasis D, Black leg

5, In Ethiopia, which of the following genera of microorganisms has the potential to be used for single cell protein production?

A, Spirulina B, Bacillus C, Rhizobium D, Agrobacterium

6, Choose the one in which the disease and its categorical names are mismatched?

A, Senile dementia – deficiency disease

B, Pellagra – deficiency disease

C, typhus – vector borne disease

D, Parkinson's disease – degenerative disease

7, In which Ethiopian traditional food preparation is the action microorganisms least evident?

A, Injera making B, kocho making C, Kinche making D, Irgo (yoghurt) making

8, Which of the following characteristics of life is not possessed by virus?

A, Mutation B, Nucleic acid C, Respiration D, Reproduction

9, If culture of green is exposed to light of different colors one at a time, which colors generate more oxygen?

A, Blue and red light B, Green and yellow light

C, Orange and yellow light D, ultraviolet and infrared light

10, The bird flu is currently threatening the global poultry industry. What is the causative agent of this disease?

A, Bacteria B, Fungi C, Virus D, Worm

11, Which of the following is the causative agent of AIDS?

A, Fungus B, Bacterium C, Virus D, protozoa

12, Which of the following can be one reason for the difficulty to produce a vaccine again HIV / AIDS?

A, The small size of the virus

B, The high variability of the virus

C, Its possession of RNA instead of DNA

D, The presence of protective envelope derived from the host cell

13, If all dogs in your community are vaccinated, which of the following diseases will be put under control in your community?

A, Meningitis B, rabies C, Leshmaniasis d, Syphilis

14, Which of the following is mechanism by which bacteriophages transfer genes from one bacterium to another?

A, Binary fission B, conjugation C, Transduction D, transformation

15, If HIV patients take a drug that inhibits the function of the viral reverse transcriptase enzyme which of the following processes would be primarily affected?

A, Entry of the virus into the patient’s body B, Copying of DNA into RNA

C, Copying of RNA into DNA D, Protein synthesis

16, Anti HIV/AIDS clubs are today common in schools and colleges, what is the main contribution in the fight against the pandemic?

A, Provide medication for AIDS patients B, Encourage the girls to have the boy friends

C, Encourage the boys to have girlfriends D, Raise awareness about the problem among students

17, Some countries demand foreign travelers to produce HIV/AIDS free certificate before letting them enter the country What do we call this type of disease control mechanism?

A, Legislative B, Physical C, Cultural D, Biological

18, Which of the following statement is correct about HIV?

A, It is bacteriophage B, It is retrovirus C, It is a DNA virus D, It infects pants and animals alike

19, Select the kingdom of life in which cellular organelles are without membrane around them?

A, Plantae B, Protista C, Monera D, Fungi

20, Identify from the following a biological control method of malaria?

A, Use of fishes to feed on mosquito larvae

B, Use of DDT spraying to kill mosquitoes

C, Using crop rotation system in farm

D, Hand picking and physical removal of weeds and affected plants

21, Which of the following is true about meanings contained in the in the name HIV and AIDs?

A, HIV refers to symptoms that characterize the condition

B, AIDS refers to the causative agent

C, AIDS refers to the symptoms

D, HIV refers to the probable origin from the chimpanzee

22, Identify the disease that is not correctly paired with the substance whose deficiency causes the disease?

A, Berbei – nicotinic acid B, Scurvy – vitamin C C, Night blindness – Vitamin A D, Rickets – vitamin D

23, Of the following, which cell type is attacked by HIV?

A, Red blood cells C, Sperm cells C, Egg cells D, T helper cells

24, If one regularly includes orange in his daily diet, which deficiency disease would be avoided?

A, Night blindness B, Pellagra C, Beiberi D, scurvy

25, Which of the following disease of livestock is associated with tsetse flies?

A, Rinderpest B, Trypanosomiasis C, Blacking D, Anthrax

26, What are the causes of infectious disease?

A, The parental genes B, Microorganisms C, Carcinogenic substances D, Bad life style

27, Among the following human diseases, identify the one that is transmitted through a vector?

A, Leprosy B, Chancroid C, Gonorrhea D, Leishmaniasis

28, A number of virus including HIV, have more than one strain. This show the viruses are;

A, Capable of living outside their host cell C, capable of reproduction

B, Capable of mutation D, Obligate parasites

29, Which is not true of prokaryotes? They

A, Are living cells B, Lack true nucleus

C, All are parasites D, Are either Archaebacteria or eubacteria

30, Which of the following are rod shaped bacteria?

A, Cocci B, Spirochetes C, Spirilla D, Bacilli

31, The cells of which group of microorganisms can be described as prokaryotic?

A, Virus B, Protozoa C, Algae D, Bacteria

32, What are bacteriophages?

A, Bacteria B, Virus C, protozoa D, fungi

33, Which of the following is major killer of AIDS patients?

A, Pneumonia B, anemia C, opportunistic infection D, Mal nutrition

34, Among the following infectious human diseases, identify the one that is caused by a virus?

A, Yellow fever B, Pneumonia C, cholera Typhoid fever

35, Why T lymphocytes more vulnerable to HIV infection?

A, Because they posses

A, Thin cell membrane B, gp 120 on their surface

C, HIV receptor protein D, Large pores in their cell membrane

36, Which of the following statement is true about bacteria?

A, Bacteria found in human body are all parasitic B, all bacteria are harmful because they spoil food

C, all bacteria cause disease to humans, plants, and animals in some ways

D, some bacteria living in human body make vitamins needed by the body

37, Which one of the following is mode of reproduction in bacteria?

A, Mitosis B, Binary fission C, Conjugation D, Lysogenization

38, If AIDS patient given antiretroviral drugs are targeted against the protease enzyme, which one of the following stages of the HIV life cycle would be inhibited

A, Entry into the host cell B, Reverse transcription

C, Integration of viral DNA into host DNA D, Assembly of viral parts into a whole virus

39, Which of the following I true about those bacteria which dwell in hot spring?

A, they are not metabolically active

B, they use non protein enzymes

C, they get energy of activation from the spring heat

D, their enzymes do not denature at the temperature

40, Choose the disease that is caused by what is known as the droplet infection?

A, Flu B, AIDS C, Cholera D, Malaria

41, Which of the following is the best collective name for all bacteria with spherical shape?

A, Cocci B, Bacilli C, Spirochaetes D, Streptococci

42, In which part of the cell do gram positive and gram negative bacteria differ regarding their staining property with gram stains?

A, Cytoplasm B, Cell membrane C, Cell wall D, Nucleus

43, To which of the following does HIV belong?

A, Plasmid B, Retroviruses C, DNA virus D, Bacteriophage

44, What are the individual strands of fungal mycelium called?

A, Fungus B, Spores C, Hyphae D, Hydra

45, What is the mode of transmission of diseases such as cholera and typhoid fever?

A, Sexual intercourse B, Bites of animal vectors

C, Blood to blood contact D, Drinking contaminated water

46, Viruses are better characterized as:

A, Decomposer B, Producers C, Carnivores D, parasites

47, Which of the following is true about the antiretroviral drugs currently used to treat AIDS patient?

A, they cure AIDS B, They stop HIV transmission

C, They serve as anti HIV vaccine D, They slow down HIV multiplication

48, What are the most frequent causative agents of food poisoning?

A, Bacteria B, Protozoa C, viruses D, Worms

49, Which of the following practice does not normally transmit HIV?

A, Sexual intercourse through anus B, Sharing injection needles

C, blood transfusion D, shaking hands

50, Which of the following human diseases can be prevented by taking proper diet?

A, Degenerative disease B, genetic disease C, Social disease D, deficiency disease

51, To which of the following groups do those bacteriophages that integrate their DNA into the chromosomes of their bacterial host belong?

A, Virulent viruses B, Lytic viruses C, Lysogenic viruses D, non-parasitic viruses

52, Which groups of microorganisms causes disease known as athlete’s foot?

A, Bacteria B, fungi C, protozoa D, Viruses

53, Choose the one which is different from the others?

A, Genetically modified organisms B, Genetically engineered organisms

C, Pathogenic organisms D, transgenic organisms

54, What is the advantage of using HAART for treatment of HIV?

A, It gives lasting immunity to HIV B, It prevents mutation of HIV

C, It prevents re infection by HIV D, It helps to break the life cycle of HIV

55, On which one of the following principles is most of anti HIV drugs currently in use working?

A, Inhibition of enzyme action B, Degradation of viral RNA

C, digesting of viral particles D, phagocytosis of the virus

56, If a new anti HIV drug is to be developed to prevent the virus from entering the host cell, which one of the following processes should the drug target?

A, Reverse transcription B, Bonding Gp 120 and CD4

C, Integration of viral DNA in to host DNA D, Assembly of viral parts in to whole virus

57, Which of the following groups of bacteria consists of rod shaped?

A, Gram positive B, Bacilli C, Cocci D, Spirilla

58, Which of the following is true about protozoa?

A, they are group of bacteria B, they are one celled plants

C, they represent both plants and animals D, They are unicellular animals

59, Which of the following do viruses share with the cell?

A, Cell wall B, Cytoplasm C, Nucleic acid D, Protoplasm

60, Choose the characteristics that viruses share with living things?

A, they are made up of many specialized cells B, They contain genetic materials

C, they reproduce by mitosis D, They contain chlorophyll

61, Which stage in the life cycle of HIV inhibited by the anti-retro viral drug known as integrase inhibitor?

A, Conversion of viral RNA to DNA B, Replication of the viral genome

C, Insertion of the viral genome into host genome D, Release of viral progeny from the cell

62, What is the difference between HIV and AIDS?

A, AIDS is the virus and HIV is the disease B, Both AIDS and HIV refers to the disease

C, AIDS is the disease and HIV is the virus D, Both AIDS and HIV refers to the virus

63, What does the absence of chloroplast in unicellular organisms indicate?

A, Reproduction by sexual; means B, Autotrophic nutrition

C, Heterotrophic nutrition D, Complete lack of metabolic processes

64, What the color do gram positive bacteria stain with gram stains?

A, Red B, pink C, purple D, white

65, Among the following organisms which one belongs to the prokaryotes?

A, Paramecium B, Streptococcus C, Spirogyra D, tapeworm

66, What is the process called when two bacteria directly contact cell to cell and exchange their genetic information?

A, Conjugation B, transformation C, Co transformation D, transduction

67, Which of the following features makes humans T- lymphocyte cells more vulnerable to HIV attack? Presence of

A, Cell membrane B, DNA on chromosomes

C, CD4 on the membrane surface D, DNA on the chromosome

68, In which of the following ways retro virus differ from the other RNA viruses?

A, Their genetic material is DNA B, Their genetic material is RNA

C, They copy RNA to DNA molecule D, They copy RNA from DNA molecule

69, Which of the following groups of microorganisms does not contain parasitic members?

A, Bacteria B, Algae C, Fungi D, Protozoa

70, Which one of the following is the smallest of all?

A red blood cells B, Viruses C, Bacteria D, Protozoa

71, Which of the following is the routine method used by clinics to test people for HIV infection?

A, Microscopic examination for the virus B, counting the number of white blood cells

C, testing for human anti HIV antibody D, measuring the amount of antibody

72, The T- lymphocyte cells of AIDS patients are destroyed by

A, Multiplication of HIV inside the cell B, Infection of opportunistic organisms

C, The immune system of the host organisms itself D, The CD4 receptors on the cell surface

73, Which stage of the lifecycle of HIV is disrupted if AIDS patients are with drug that has a protease inhibiting activity?

A, Entry of the virus into the host B, Conversion of viral RNA to DNA

C, Integration of viral DNA into host DNA D, Assembly of viral parts into whole virus

74, One of the following is true about bacteriophages that have lysogenic life cycle?

A, They are RNA viruses

B, They integrate their nucleic acid in to that of the host

C, They multiply in the host immediately after infection

D, Pathogen viruses are release by chronic release method

75, Which of the following type if cancer is known to mostly develop in AIDS patient?

A, Cervical cancer B, Stomach cancer C, Kaposi’s sarcoma D, Breast cancer

76, In which of the following living organisms do the cells lack organized nuclei?

A, Fungi B, protozoa C, Bacteria D, Algae

77, Which of the following is major mechanism by which AIDS is transmitted?

A, Mother to fetal transmission B, Heterosexual intercourse

C, Homosexual intercourse D, Contaminated Blood transfusion

78, Which of the following disease is correctly matched with its causative agent?

A, Malaria- fungus B, AIDS- virus C, ring worm- Protozoa D, Syphilis- Worms

79, Which step in HIV life cycle is disrupted by antiretroviral drug that competitively inhibits transcriptase enzyme?

A, Entry into te3 host cell B, assembly of viral parts into a virus

C, Formation of DNA from RNA D, Integration of viral DNA into host DNA

80, In what way would AIDS patient benefits from treatment with antiretroviral drugs?

A, reduction of HIV replication C, Provision of cure for AIDS

C, Immunizing against HIV D, killing of opportunistic infectious agent

81, Which of the following is the best collective name for all bacteria with spherical shape?

A, Spirochaetes B, Baacilli C, Cocci D, Streptococci

82, Which of the following disease is transmitted by mosquito?

A, Diabetes mellitus B, Kaposis cancer C, Rabies D, Malaria

83, Which of the following microorganisms are prokaryotic?

A, Bacteria B, protozoa C, yeast D, Algae

84, Form which of the following diseases can one be protected by sleeping under the cover of mosquito net?

A, Sleeping sickness B, AIDS C, Malaria D, Athlete’s foot

85, Which of the following has the highest risk of HIV transmission?

A, Hand shaking B, Needle sharing C, Towel sharing D, Toilet sharing

86, Which of the following occurs during dark reaction of photosynthesis?

A, Water is split B, Energy capturing reaction C, NADPH is synthesized D, ATP is used up

87, Which of the following human cell type is attacked by HIV?

A, Red blood cells B, White blood cells C, T- lymphocytes D, Leukocytes

88, Among the following which one best describes the cells of bacteria?

A, Eukaryotic B, prokaryotic C, both eukaryotic and prokaryotic D, Neither prokaryote nor eukaryote

89, Which of the following groups of viruses copy their RNA to DNA?

A, Bacteriophages B, DNA viruses C, RNA viruses D, retroviruses

90, What is the name of a major group of eukaryotic organisms that obtain their nutrition using extracellular digestion?

A, Viruses B, Bacteria C, fungi D, Algae

91, In what main ways do retroviruses such as HIV differ from other type of RNA viruses?

A, They require a host cell to reproduce

B, They reversely copy RNA to DNA

C, Their genes are resistance to mutation

D, They are free living viruses

92, Which of the following is taken as a signal for the final stage of HIV infection?

A, Signs of a disease kaposi’s sarcoma B, outbreak of some genetic disease

C, Uninfected T- helper cells present D, No infection by other parasitic diseases

93, In which organ of human body are more bacteria found?

A, Lungs B, Stomach C, Small intestine D, large intestine

94, From which groups of microorganisms the first antibiotics produced?

A, Gram negative B, gram positive

C, Fungal organisms D, Viral organisms

95, The best way to control HIV/AIDS is

A, Adequate distribution of condoms B, Adequate distribution of antiviral

C, breaking the transmission pathway D, Awareness creation

96, Which of the following is essential in order for a virus replication?

A, The capsid must enter the host cell cytoplasm

B, The host cell must be undergoing mitosis

C, The host cell must lack cell membrane

D, the genome must be released into the cytoplasm

97, Retroviruses are able to reverse transcribe RNA to DNA in order to

A, command the host cell in the production of genomes similar to that of the host

B, Control the formation of viral protein and RNA that can be assembled in to new viruses practices

C, Replicate without any interruption

D, Control the formation of viral protein and DNA that can be assembled into new viral practice

98, In which of the following groups of organisms are all the members of unicellular?

A, Algae B, bacteria C, Fungi D, Virus

99, Which clinical test is routinely performed to diagnose patient for AIDS?

A, Culturing opportunistic infectious agent

B, Serological test for anti HIV antibody

C, culturing the virus on a special media

D, Determining hemoglobin amount

100, Which one of the following human disease is not correctly matched with its mode of transmission?

A, Malaria – vector B, Cholera – contaminated water

C, Sleeping sickness – physical contact D, Influenza – droplet infection

101, In what way does an antiretroviral drug help AIDS patient? It

A, provides immunity B, Stops the multiplication of HIV

C, Stimulates the multiplication of T- helper cells D, Kills opportunistic infectious agent

102, What is capsid?

A, The RNA of a virus B, The DNA of a virus

C, The protein shell of a virus D, The genetic material of a virus

103, From which group of microorganisms was the first antibiotic produced?

A, Members of the fungi B, Members of the virus

C, Gram negative bacteria D, Gram positive bacteria

104, What is the main method of transmission of botulism?

A, Direct contact B, Eating contaminated food

C, Droplet infection D, Drinking contaminated water

105, Transfer of gene or genes through virus is called

A, transformation B, conjugation C, Genetic engineering D, transduction

106, When reverse transcriptase a useful enzyme? When

A, Nutrients are scarce

B, There are no host cells present

C, RNA virus converts its RNA to DNA

107, Spikes are forming in the new virus

In what ways does retro virus differ from other RNA viruses?

A, Their genetic material is RNA B, They copy RNA to DNA

C, They are parasitic D, They are smaller in size

108, Which of the following is the correct statement about the difference between bacterium and virus?

A, DNA is present in the former, but absent in the later

B, Protein is absent in the former, but present in the later

C, The former is cellular, but the latter is acellular

D, The former causes malaria, but the later causes cholera

109, Which of the following statement is not correct?

A, HIV – positive people are forced by law to disclose their HIV status

B, Employers may not dismiss an employee because of his /her HIV status

C, There is no medication that can reduce your chance of contracting HIV

D, Mothers can give their babies by means of breast feeding

110, Which one of the following happens during integration of viruses into host cells?

A, The viral DNA is inserted into the host DNA

B, The viral DNA inters the host cell

C, The virus attaches to the hoist cell receptor

D, The virus takes over the host cells machinery

Answer

No.	Answer	No.	Answer	No.	Answer	No.	Answer	No.	Answer
1	D	26	B	51	C	76	C	101	B
2	B	27	D	52	B	77	B	102	C
3	D	28	B	53	C	78	B	103	A
4	C	29	C	54	B	79	D	104	B
5	A	30	D	55	D	80	A	105	D
6	A	31	D	56	C	81	C	106	C

7	C	32	B	57	B	82	D	107	B
8	C	33	B	58	D	83	A	108	C
9	A	34	A	59	C	84	C	109	A
10	C	35	C	60	B	85	B	110	B
11	C	36	D	61	A	86	D	111	
12	B	37	B	62	C	87	C	112	
13	B	38	D	63	C	88	B	113	
14	C	39	D	64	C	89	D	114	
15	C	40	A	65	B	90	C	115	
16	D	41	A	66	A	91	B	116	
17	A	42	C	67	C	92	A	117	
18	B	43	B	68	C	93	D	118	
19	C	44	C	69	B	94	C	119	
20	A	45	D	70	B	95	C	120	
21	C	46	D	71	B	96	A	121	
22	A	47	D	72	A	97	B	122	
23	D	48	A	73	A	98	B	123	
24	D	49	D	74	B	99	B	124	
25	B	50	D	75	C	100	C	125	