

1. The motile zygote of *Plasmodium* is found in
 - A. Human liver
 - B. Human RBCs
 - C. Salivary glands of female *Anopheles*
 - D. The gut of female *Anopheles*
2. Which of the following is not a vector-borne disease?
 - A. Yellow fever
 - B. Dengue fever
 - C. Viral fever
 - D. Malaria
3. Recurring chills and fever in malaria is due to
 - A. Destruction of micro and macrogametocytes by the WBCs
 - B. Rupturing of RBCs by rapid multiplication and release of haemozoin
 - C. Toxins released from trophozoites
 - D. Sporozoites released from RBCs and are rapidly being killed in the spleen
4. When the sporozoites enter the human blood, it is carried to the liver and replicate and develops into merozoites in the liver. The merozoites release into the blood and the parasites invade RBCs. Which of the following statements is Not true regarding the developmental phase of Plasmodia inside the RBCs?
 - A. The phase is known as the erythrocytic phase of malaria
 - B. The merozoites go through asexual reproduction
 - C. The phase lasts for two to three days
 - D. The merozoites go through sexual reproduction and develop into a zygote
5. All of the following statements regarding recurrent malaria (relapse, recrudescence, and reinfection) is correct, Except?
 - A. Some patients develop malaria again after a period of time
 - B. Recrudescence is due to insufficient treatment, relapse is due to the reappearance of merozoites from hypnozoites
 - C. It can be seen in all *Plasmodium* spp causing malaria
 - D. The highest rate of relapses occurs with malaria caused by *P. vivax*

6. Malaria is endemic in many countries and is reported to be a leading cause of death from the parasitic infection killing millions of people globally, the most number of deaths occurring in Africa. Which of the following age group of people have a high fatality rate?
- A. 10 - 15 year of age
 - B. > 5 year of age
 - C. < 40 years of age
 - D. 10- 25 years of age
7. Trophozoites, schizonts, and gametocytes of all the malarial parasites are seen in the peripheral blood smear except;
- A. *P. falciparum*
 - B. *P. malariae*
 - C. *P. ovale*
 - D. *P. vivax*
8. If a disease jumps from a non-human animal to a human, then it is termed as
- A. Zoonotic disease.
 - B. Infectious disease.
 - C. Congenital disease.
 - D. Iatrogenic disease.
9. Explain the term vector:
- A. An animate object involved in passing on disease.
 - B. An inanimate object involved in passing on disease.
 - C. An animate object that prevents disease.
 - D. An inanimate object that prevents disease.
10. Which of the following statements about yellow fever is **true**?
- A. Has an incubation period of 4- 9 days.
 - B. Has a case fatality rate of about 50%
 - C. Is caused by a flavivirus.
 - D. Is spread by anopheline mosquitoes.
 - E. Epidemics should be controlled by strict isolation of cases.
11. Besides R.B.C. Plasmodium attacks one more of the human body cells during its normal course of life cycle. Name the human body cells.
- A. Columnar cells of intestine.
 - B. Muscle cells.
 - C. Nerve cells.
 - D. Liver cells.
 - E. Spleen cells.

12. Producing a vaccine against the tsetse-fly borne trypanosomes is very difficult because
- tsetse-flies are hard to breed in captivity.
 - trypanosomes each have over a thousand genes for antigens but express only one at a time.
 - the disease is only expressed in humans and experimental subjects are hard to get.
 - the trypanosome does not cause an antibody response.
13. Which of the following is false about Vivax malaria?
- May be complicated by anaemia.
 - May be complicated by jaundice.
 - In a traveller may present more than six months after exposure.
 - Is not sensitive to chloroquine.
 - May co-exist with falciparum malaria in the same patient.
14. The *Plasmodium* life cycle stages that must be ingested by a female *Anopheles* for the *Plasmodium* life cycle to continue in the mosquito is the
- gametocyte.
 - Merozoites.
 - Schizonts.
 - Sporozoite.
 - Trophozoites.
15. Which of the following is **not true** about Trypanosomes?
- There are two main types.
 - They exhibit dimorphism.
 - They multiply in the blood of cow.
 - They affect some domestic animals.
 - They affect the central nervous system.
16. After sporozoite gain entrance to the human body, it undergoes a developmental cycle first in the liver than in RBC, only after which fever is seen. This incubation period varies between plasmodium species, and species has the longest incubation period.
- P. falciparum*
 - P. malariae*
 - P. ovale*
 - P. vivax*
17. Which of the following about the eggs of mosquitoes is **not true**? The eggs
- are always laid in water.
 - of some mosquitoes usually diapauses.
 - of all mosquitoes cannot withstand drought.
 - can hatch under decreasing oxygen concentration.
 - may be deposited on damp soil.

in some lizards.

- Most reptiles have 5 toes (alligators and some lizards have 4, whilst some freshwater turtles have 3)
- The phalangeal formula for reptiles is 2-3-4-5-4, but alligator and turtles have 2-3-4-4-0

Birds

- In birds, the lower tarsal bone is fused to the distal tarsal bone to form the tarsometatarsus.

- There is an intratarsal joint between the tibiotarsus and the tarsometatarsus.
- There is a joint between the tarsometatarsus and the toes.
- Most birds have 4 toes, a few have 3, and a few have 2.

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18. Which of the following statement about *Plasmodium falciparum* is false?
- Causes more severe disease in pregnancy.
 - Is associated with recurrent relapses after initial treatment because of liver hypnozoites.
 - Is the only malarial parasite causing greater than 20% parasitaemia.
 - Infection is typically associated with thrombocytopaenia.
 - Is the only cause of cerebral malaria.
19. Which of the following diseases are caused by mosquitoes bite
- Sleeping sickness / Malaria / dengue / flu.
 - Malaria / dengue / yellow fever / filariasis.
 - malaria / yellow fever / pneumonia / T.B.
 - malaria / dengue / yellow fever / sleeping sickness.
20. Vector (mosquito) control is one way to control and eliminate malaria. Which of these is **not** a vector control technique?
- Leaving out old tyres.
 - Spraying insecticidal compounds inside homes.
 - Introduction of larvae-eating fish to lakes and ponds.
 - Use of bednets impregnated with insecticides.
21. The Exo-erythrocytic cycle of malaria takes place in the:
- | | | |
|----------------------------|------------------------|---|
| A. Human blood cell | B. Mosquito blood cell | <input checked="" type="radio"/> C. Human liver |
| D. Mosquito salivary gland | E. Human epidermis. | |
22. The most common of the human infecting malarial parasite is
- | | |
|--|-------------------------------|
| A. <i>Plasmodium ovale</i> | B. <i>Plasmodium vivax</i> |
| <input checked="" type="radio"/> C. <i>Plasmodium falciparum</i> | D. <i>Plasmodium malariae</i> |
23. The causative agent of African sleeping sickness is
- Trypanosoma cruzi*.
 - Trypanosoma tangela*.
 - Trypanosoma brucei rhodesiense*.
 - ☒ *Trypanosoma brucei gambiense*.
24. In the body of the tse-tse three major morphological forms of *Trypanosoma brucei gambiense* are observed, they are metacyclic form, long and slender form and.....
- Megadospheric form.
 - Microspheric form.
 - Ccithidial form.
 - Primary form.
 - Secondary form.

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- The phalangeal formula for reptiles is 2-3-4-5-4, but alligator and turtles have 2-3-4-4-0

Birds

- In birds the proximal tarsals are united

- There is an intratarsal joint between the tibiotarsus and the tarsometatarsus.
- There is a joint between the tarsometatarsus and the toes.
- Most birds have 4 toes, a few have 3, ostriches have 2.
- Illegible

25. Among the anopheline species the exophilic resting behavior is seen in
1. Anopheles culicifacies.
 2. Anopheles fluviatilis.
 3. Anopheles minimus.
 4. Anopheles stephensi.
- A. 1. and 2. are correct.
B. 2. and 3. are correct.
C. 3. and 4. are correct.
D. 1. and 4. are correct.
26. How is dengue fever transmitted?
- A. Bite of an infected mosquito.
 - B. Bite of an infected male Aedes mosquito.
 - C. Bite of an infected female Anopheles mosquito.
 - D. Bite of an infected female Aedes mosquito.
27. Incubation Period refers to
- A. Time between exposure and onset of symptoms.
 - B. Time between appearance of symptoms and recovery phase.
 - C. Time between exposure and course of illness.
 - D. Time between febrile phase and critical phase.
28. Dengue fever incubation period ranges from:
- A. 1-12 days.
 - B. 3-14 days.
 - C. 14-28 days.
 - D. 28-32 days.
29. The following are signs and symptoms manifested by a patient in the febrile phase of Dengue Fever, except:
- A. High fever.
 - B. Rash.
 - C. Petechiae.
 - D. Severe GI bleeding.
30. Man is a definitive host and mosquito an intermediate host in
- A. Malaria.
 - B. Filariasis.
 - C. Japanese encephalitis.
 - D. Dengue.

3)
• The phalangeal formula for reptiles is 2-3-4-5-4, but alligator and turtles have 2-3-4-4-0

Birds

• In birds the proximal tarsals are united with the lower end of the

• The distal tarsals are the three fused tarsometatarsals

• There is a joint between the tarsometatarsus and the toes.

• Most birds have 4 toes, a few have 3, ostriches have 2.

• Usually 3 toes are directed forward, whilst 1 comes

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31. The infectious agent that causes malaria is known as which of the following?

- A. Protozoan parasite.
- B. Bacterial parasite.
- C. Viral parasite.
- D. Fungal parasite.

32. Trypanosoma is transmitted by

- A. Contamination.
- C. Contagious.

- ☒ B. Incubation.
- D. Touch.

33. The tse-tse fly is the vector of the disease

- A. Typhoid.
- ☒ C. Gambian.

- B. Kalazar.
- D. Oriental.

34. Which of the following about African trypanosomiasis is true?

- A. It has an incubation period of 4-6 months.
- B. It may cause erythema chronicum migrans in light skinned persons.
- C. The Gambian form progresses more rapidly.
- D. The Gambian form is associated with a more prominent chancre.
- E. The Gambian form can be treated with pentamidine.

35. Following statements regarding *Aedes aegypti* mosquito are true:

- 1. *Aedes aegypti* mosquito generally bites during day time.
 - 2. For *Aedes* mosquito control 0.1% pyrethrum extract "ready-to-spray" formulation is used for indoor spraying.
 - 3. One liter of 0.1% pyrethrum extract "ready-to-spray" formulation is needed to cover 100 cubic meters of indoor space.
 - 4. Pyrethrum is nontoxic to humans and other non-target organisms at the recommended dose.
- A. 1, 2, and 3 are true.
 - B. 2, 3, and 4 are true.
 - C. 1, 2, and 4 are true.
 - D. 1, 3, and 4 are true.

36. Which type of malaria parasite attacks young, weak and undernourished individuals?

- A. *Plasmodium ovale*.
- B. *Plasmodium falciparum*.
- C. *Plasmodium knowlesi*.
- D. *Plasmodium vivax*.

37. Pupae of *Anopheles* breathe through the

- A. siphon on the head.
- B. breathing trumpets on the head.
- C. siphons on the thorax.
- D. trumpets on the cephalothorax.
- E. breathing trumpets on the thorax.

- In birds the proximal tarsals are united with the lower end of the tibia to form a tibiotarsus.
- The distal tarsals are united with the three proximal tarsals.

Usually 3 toes are directed off the back.

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38. At what stage of the life history of *Glossina palpalis* is the developing immature extruded from the female?
- egg
 - 1st instar
 - pupa
 - 2nd instar
 - 3rd instar
39. The eggs of the family Culicinae differ from those of the Anophilineae in all of the following **except** that they
- are laid in batches.
 - are not attached to each other.
 - are laid on moist surface.
 - are susceptible to desiccation.
 - do not have floating hairs.
40. Which stage of *Plasmodium* is infective for mosquito?
- Trophozoite.
 - Gametocyte.
 - Ookinete.
 - Sporozoite.
41. The typical number of juvenile (larval) stages in the life cycle of a nematode is:
- 4
 - 3
 - 5
 - 2
 - 6
42. The reservoir host for *Trypanosoma brucei gambiense* is
- | | |
|--|----------------|
| A. Rat. | B. Pig. |
| <input checked="" type="radio"/> C. Man. | D. Tsetse fly. |
43. *Glossina palpalis* is a vector for
- Dengue.
 - Filariasis.
 - Gambian fever.
 - Plague.
 - ☒ E. Trypanosomiasis.
44. Which is the intermediate host for the causative agent for trypanosomiasis?
- Canines.
 - Cattle.
 - Rodents.
 - Sandfly.
 - Tsetse-fly.

45. *Trypanosoma brucei gambiense* lives in the human body in the
☒ A. Lymph.
B. Blood.
C. Cerebrospinal fluid.
D. Blood and cerebrospinal fluid.

46. The infective stage of trypanosome is
A. Long and slender form.
B. Crithidial form.
C. Metacyclic form.
☒ D. Intermediate form.

47. The main symptom for Gambian fever is
☒ A. Headache.
B. Dysentery.
C. Diarrhoea.
D. Insomnia.

48. Mosquitoes is/are the vector in the following disorder(s)
A. Onchocerciasis.
B. Visceral leishmaniasis.
C. African trypanosomiasis.
D. Bancroftian filariasis.

49. The stage of *Wuchereria bancrofti* that is ingested by the mosquito is
A. L₁
B. L₂
C. microfilaria
D. A and B
E. A and C

50. Benign malaria is usually caused by:
A. *Plasmodium vivax*.
B. *Plasmodium malariae*.
C. *Plasmodium ovale*.
D. *Plasmodium falciparum*.

51. What two organisms are necessary for the life cycle of *Plasmodium*, the malaria parasite?
A. Human and mosquito.
B. Human and tsetse fly.
C. Mosquito and tsetse fly.
D. Human and snail.
E. Pig and mosquito.

52. Which of the following represents the form of the *Plasmodium* that is released from the erythrocyte by lysis?
A. Trophozoite.
B. Schizont.
C. Macrogametocyte.
D. Merozoite.

53. Trypanosomes reproduce by:

- A. gametocyte fusion.
- B. blebbing.
- C. schizogony.
- D. binary fission.

54. When schizogony produces merozoites, it is called

- A. gametogony.
- B. merogony.
- C. sporogony.
- D. sexual reproduction.

55. The generic characteristics of *Culex* include all of the following **except**

- A. hairs on the larval siphon.
- B. presence of post spiracular bristles.
- C. presence of tarsal pulvilli.
- D. eggs form tufts.
- E. tip of female abdomen is blunt.

56. Which of the following tsetse-flies is **not** associated with woodland and savannah?

- A. *Glossina morsitans*.
- B. *G. pallidipes*.
- C. *G. palpalis*.
- D. *G. swynnertoni*.

57. Which of the following statement is **true** about Trypanosoma?

- A. Poymorphic.
- B. Monogenetic.
- C. Facultative parasite.
- D. Non-patogenic.

58. You find mosquito larvae in your fish pond that lie parallel to the water surface; these larvae are members of the genus

- A. *Culicoides*.
- B. *Anopheles*.
- C. *Culex*.
- D. *Simulium*.
- E. *Aedes*.

• The distal tarsals are united with the upper ends of the three fused metatarsals to form a long rigid tarsometatarsus.

• A few birds like the woodpecker and parrot have 2 toes pointing backwards forming an X (zygodactyly)

59. Haematophagy is a characteristic of insect's vectors that refers to:
- A. Mating at dawn.
 - B. Feeding on sugar.
 - C. Feeding on blood.
 - D. Feeding on lymph.
60. Trypanosomes reproduce by:
- A. gametocyte fusion.
 - B. blabbing.
 - C. schizogony.
 - D. binary fission.
61. The sexual cycle of *Plasmodium* is completed in
- A. The gut of mosquito
 - B. RBC
 - C. Liver tissue
 - D. The salivary gland of the mosquito
62. The greatest number of deaths globally caused by a parasite are due to:
- A. Schistosomiasis
 - B. Malaria.
 - C. Filariasis.
 - D. Ascariasis.
 - E. Hookworm.
63. Which of the following statements is **most correct** about the "exoerythrocytic phase" of the development of the Plasmodia?
- A. The sporozoites of plasmodia do not divide and remains outside the red blood cells.
 - B. This phase occurs only in *P. vivax* and *P. ovale*.
 - C. The sporozoites are called hypnozoites during the exoerythrocytic phase.
 - D. There is a long duration of time between initial infection and appearance of the symptoms.
 - E. All of the above.
64. The part of life cycle of malaria parasite *Plasmodium vivax*, that is passed in female Anopheles is
- A. sexual cycle
 - B. pre-erythrocytic schizogony
 - C. exoerythrocytic schizogony
 - D. post-erythrocytic schizogony.

65. Miss Josephine found mosquito larvae in an aquarium. The larvae have paired prothoracic notched organ and paired palmate hairs (float hairs) on most abdominal segments. The larvae belong the genus
- A. *Culicoides*
 - B. *Anopheles*
 - C. *Culex*
 - D. *Simulium*
 - E. *Aedes*
66. The African sleeping sickness involves a life cycle with which combination of organisms?
- A. *Trypanosoma*, *Anopheles* mosquito, human.
 - B. *Trypanosoma*, tsetse fly, human.
 - C. *Plasmodium*, tsetse fly, human.
 - D. *Plasmodium*, *Anopheles* mosquito, human.
 - E. *Trypanosoma*, tsetse fly, *Anopheles* mosquito.
67. Arboviruses are viruses that
- A. cannot multiply in any invertebrate.
 - B. cannot survive in any vertebrate host.
 - C. that do not cause diseases in animals.
 - D. can multiply in both vertebrates and invertebrates.
 - E. can only multiply in an invertebrate host.
68. Which of the following statements about dengue fever is **false**?
- A. It is spread by the vector *Aedes aegypti*.
 - B. It has an incubation period of 2 -3 weeks.
 - C. It is caused by a flavivirus.
 - D. It characteristically causes severe myalgia.
 - E. It is more likely to cause haemorrhage in patients previously infected by dengue virus.
69. African sleeping sickness is due to
- A. *Plasmodium vivax* transmitted by Tsetse fly.
 - B. *Trypanosoma lewisi* transmitted by Bed Bug.
 - C. *Trypanosoma gambiense* transmitted by *Glossina palpalis*.
 - D. *Entamoeba gingivalis* spread by Housefly.
70. Malarial parasite is best obtained from a patient
- A. an hour after rise of temperature.
 - B. while temperature is rising sharply.
 - C. after 24 hours when temperature is normal.
 - D. after temperature becomes normal.

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