Model Questions

for

Fish and Shellfish Pathology

FSHM 2201 (2+1)

**COURSE TEACHER**

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| **Sl. NO** | **FSHM 2201** | **Fish and Shellfish Pathology** |  |
|  |  | Melting point of paraffin wax is |  |
| A) | 44ºC - 48ºC |  |
| B) | 54ºC - 58ºC | Yes |
| C) | 64ºC - 68ºC |  |
| D) | 74ºC - 78ºC |  |
|  |  | ……….. is a branch of pathology concerned with the tissue changes characteristic of disease. |  |
| A) | Histology |  |
| B) | Histopathology | Yes |
| C) | Pathology |  |
| D) | None |  |
|  |  | The thickness of fish tissues for histopathological study is |  |
| A) | 3-4 mm | Yes |
| B) | 1-2 mm |  |
| C) | 6-7 mm |  |
| D) | None of the above |  |
|  |  | Which instrument is use for cutting of histopathological block? |  |
| A) | Blade |  |
| B) | Incubator |  |
| C) | HPLC |  |
| D) | Microtome | Yes |
|  |  | Which of the following fixative is used for Shellfish? |  |
| A) | Davidson Fixative | Yes |
| B) | Buffered Formalin |  |
| C) | Bouin’s Fixative |  |
| D) | All |  |
|  |  | Which of the following stain used for histopathology? |  |
| A) | Haematoxylin |  |
| B) | Eosine |  |
| C) | Both | Yes |
| D) | None |  |
|  |  | Example of infective agents responsible for inflammation. |  |
| A) | Bacteria |  |
| B) | Virus |  |
| C) | Fungi |  |
| D) | All the above | Yes |
|  |  | …….. is the study of diseases and their causative agents. |  |
| A) | Pathogenesis |  |
| B) | Histopathology |  |
| C) | Pathology | Yes |
| D) | All |  |
|  |  | The capacity of a bacterium to cause disease is known as |  |
| A) | Pathogenesis |  |
| B) | Pathogenicity | Yes |
| C) | Virulence |  |
| D) | All of the above |  |
|  |  | Disease outbreak in animals in a specified and localized area |  |
| A) | Epizootic | Yes |
| B) | Enzootic |  |
| C) | Panzootic |  |
| D) | All of the above |  |
|  |  | Study of disease including the spread of pathogens, mode of infection, mode of transmission, cause of disease and its control |  |
| A) | Epizootic |  |
| B) | Enzootic |  |
| C) | Panzootic |  |
| D) | Epizootiology | Yes |
|  |  | Sequence of events by which a disease develops |  |
| A) | Pathogenesis | Yes |
| B) | Pathogenicity |  |
| C) | Virulence |  |
| D) | None |  |
|  |  | Behavioural or gross morphological changes, characteristic changes associated with diseases that can be observed when examined |  |
| A) | Clinical signs | Yes |
| B) | Symptoms |  |
| C) | Syndrome |  |
| D) | All of the above |  |
|  |  | Pathogen which can cause disease in a healthy fish or minimally stressed fish |  |
| A) | Primary pathogen | Yes |
| B) | Secondary pathogen |  |
| C) | Obligatory pathogen |  |
| D) | None |  |
|  |  | Pathogen that must require a host for their growth and survival |  |
| A) | Primary pathogen |  |
| B) | Secondary pathogen |  |
| C) | Obligatory pathogen | Yes |
| D) | None |  |
|  |  | Pathogen that can multiply within the host as well as outside the host |  |
| A) | Facultative pathogen | Yes |
| B) | Secondary pathogen |  |
| C) | Obligatory pathogen |  |
| D) | None |  |
|  |  | Outbreak of disease occurs suddenly, progress rapidly and is severe, resulting in highly mortality and disappears eventually |  |
| A) | Acute Disease | Yes |
| B) | Chronic Disease |  |
| C) | Infectious Disease |  |
| D) | Nutritional |  |
|  |  | Disease caused by lack of vital nutrients or the ingestion of toxins |  |
| A) | Infectious Disease |  |
| B) | Nutritional Disease | Yes |
| C) | Genetic Disease |  |
| D) | Acute Disease |  |
|  |  | Host-pathogen-environment model was described by |  |
| A) | Snieszko, 1974 | Yes |
| B) | Snieszko, 1970 |  |
| C) | Snieszko, 1969 |  |
| D) | Snieszko, 1980 |  |
|  |  | Occurrence of disease depends on |  |
| A) | A susceptible fish |  |
| B) | A virulent microbe |  |
| C) | Environmental conditions that favor the growth of the pathogen |  |
| D) | All of the above | Yes |
|  |  | Factors influencing disease potential |  |
| A) | Pathogenicity |  |
| B) | Host species |  |
| C) | Water quality parameters |  |
| D) | All of the above | Yes |
|  |  | Continuous presence of microorganisms or causative agents in localized area but not necessarily cause disease every time |  |
| A) | Epizootic |  |
| B) | Enzootic | Yes |
| C) | Panzootic |  |
| D) | Epizootiology |  |
|  |  | Disease affecting animals of many species especially over a wide area |  |
| A) | Epizootic |  |
| B) | Enzootic |  |
| C) | Panzootic | Yes |
| D) | Epizootiology |  |
|  |  | Invasion of pathogen in the host |  |
| A) | Disease |  |
| B) | Infection | Yes |
| C) | Virulence |  |
| D) | None of the above |  |
|  |  | …………is the study of cells |  |
| A) | Histology |  |
| B) | Cytology | Yes |
| C) | Pathology |  |
| D) | None of the above |  |
|  |  | Most commonly used fixative in histopathology |  |
| A) | 10% Neutral Buffered Formalin | Yes |
| B) | Zenker's fixative |  |
| C) | Helly's fixative |  |
| D) | Alcohol |  |
|  |  | Most commonly used stain in histopathology |  |
| A) | Haematoxylin and eosin | Yes |
| B) | Gram stain |  |
| C) | Crystal violet |  |
| D) | Coomassie blue |  |
|  |  | Haematoxylin is ……….. dye |  |
| A) | Acidic |  |
| B) | Basic | Yes |
| C) | None of the above |  |
| D) | All of the above |  |
|  |  | Eosin is ……….. dye |  |
| A) | Acidic | Yes |
| B) | Basic |  |
| C) | None of the above |  |
| D) | All of the above |  |
|  |  | Fixation of fish tissue in 10% NBF for …….. hours |  |
| A) | 2 hours |  |
| B) | 12 hours |  |
| C) | 24 hours | Yes |
| D) | 8 hours |  |
|  |  | …………..is used as a clearing agent in histopathology |  |
| A) | Alcohol |  |
| B) | Paraffin wax |  |
| C) | Xylene | Yes |
| D) | Formalin |  |
|  |  | …………..is used for dehydration of tissues in histopathology |  |
| A) | Alcohol | Yes |
| B) | Paraffin wax |  |
| C) | Xylene |  |
| D) | Formalin |  |
|  |  | Haematoxylin dye stains ……….. |  |
| A) | Nucleus | Yes |
| B) | Cytoplasm |  |
| C) | None of the above |  |
| D) | All of the above |  |
|  |  | Eosin dye stains ………. |  |
| A) | Nucleus |  |
| B) | Cytoplasm | Yes |
| C) | None of the above |  |
| D) | All of the above |  |
|  |  | Tissue blocks section size in histopathology is……….. |  |
| A) | 4-5 µm | Yes |
| B) | 7-9 µm |  |
| C) | 2-3 µm |  |
| D) | None of the above |  |
|  |  | Cardinal signs of inflammation |  |
| A) | Rubor |  |
| B) | Tumour |  |
| C) | Dolar |  |
| D) | All of the above | Yes |
|  |  | Cells involved in inflammation |  |
| A) | Neutrophils |  |
| B) | Monocytes |  |
| C) | All of the above | Yes |
| D) | None of the above |  |
|  |  | Irreversible cell damage |  |
| A) | Necrosis | Yes |
| B) | Apoptosis |  |
| C) | Homeostasis |  |
| D) | None of the above |  |
|  |  | Programmed cell death |  |
| A) | Necrosis |  |
| B) | Apoptosis | Yes |
| C) | Homeostasis |  |
| D) | None of the above |  |
|  |  | Ratio of tissue to fixative |  |
| A) | 1:10 | Yes |
| B) | 10:1 |  |
| C) | 9:1 |  |
| D) | None of the above |  |

**Fill in the blanks:**

a) \_\_\_\_\_are is commonly known as gut flagellates.

b) Black spot formation in tiger prawn is due to deposition of \_\_\_\_ pigment.

c) Argulus is also referred to as \_\_\_\_\_.

d) \_\_\_\_\_virus is responsible for white spot disease in shrimp.

e) Whirling disease in fish is caused by \_\_\_\_\_.

f) Control measures adopted for fin rot & tail rot by swabbing \_\_\_\_ in the affected area.

g) Trichodina belongs to phylum \_\_\_\_\_\_

h) The farmers usually adopt \_\_\_\_\_\_ method of vaccination to immunize their farmed fish.

i) Tail rot and fin rot in fishes is due to \_\_\_\_.

j) The vertebral column of fish exhibit horizontal & vertical deformities is called \_\_\_\_\_\_.

**Match the following:**

Section-A Section-B

1. Oviparus A. Cotton wool fungus

2. Luminous disease B. Body deformities

3. Mycobacterium C. Vertebral column

4. WSSV D. Dactylogiridae

5. Tape worms E. Vibrio harveyi

6. Platyhelminths F. Gram +ve

7. Viviparus G. Cestod

8. Lordosis H. Flat worms

9. Algaltoxicosis I. Gyrodactylus

10. Saprolegniasis J. White spot

**State True or False::**

a) The common fungus that affects the fish eggs is Saprolegnia. (\_\_\_)

b) Argulus is commonly known as fish lice. (\_\_\_)

c) The largest known parasitic protozoan found in fishes is Trichodina. (\_\_\_)

d) Aeromonas hydrophila causes cold water disease. (\_\_\_)

e) Viruses are often both species specific & tissue specific. (\_\_\_)

f) Channel catfish virus disease generally causes most severe losses when water temperatures reach or exceed 15° C. (\_\_\_)

g) Ascorbic acid is responsible for scoliosis in fish. (\_\_\_)

h) The infections of zoothamnium indicates poor maintenance of water quality in hatchery. (\_\_\_)

i) Diplostomum sp. is an ectoparasite. (\_\_\_)

j) Ulcerative disease in catla is due to Aeromonas hydrophila. (\_\_\_)

**Explain the following**:

a) Biopsy

b) Hypertrophy

c) Algal toxicosis

d) Inflammation

e) Scoliosis

f) Epizootiology

g) Immunostimulants

h) Quarantine

i) WSSV

j) Elisa

**Long Questions**

5. Define EUS. Write its control measures.

6. Write the importance shrimp viral diseases in India and their control measures?

7. What are the factors influencing the phagocytosis in shellfishes?

8. Give a note on Non-infectious fish diseases and their control measures.

9. Write briefly on stress in aquaculture & its role in disease development.

10. Give a note on diagnosis & life cycle of Argulosis & write the prevention and control measures.

11. Give a note soil & water quality parameter in fish health management.

12. Write short notes-

a) Bacterial disease in shrimp.

b) Disease preventive strategy.