ZOE506: INFECTIOUS DISEASES

Teaching Hours 10/Unit

COURSE OUTCOME

1. This course mainly deals with different parasites that are responsible for various human diseases and their epidemiology and to introduce the students to current knowledge on the morphological features and life cycles of principal human parasites.
2. Outstanding progress will be achieved to understand serious parasitic infections caused by obligate parasites, facultative and opportunistic parasites.
3. To learn methods for accurate diagnosis of parasites responsible for food poisoning.
4. To know disease transmission processes.
5. Methods of prevention and to control the spread of these parasites.
6. This course is offered as an open elective choice for students from other departments who are interested in understanding different parasite born human infections and its control.

UNIT-I

Introduction to parasitic infections : historic perspectives, Koch's hypothesis, General events in establishment of infection, infection dose, lethal dose, infectious diseases, epidemiology types of infections, nosocomial infections, antisepsis.
Modes of disinfection/sterilization

UNIT-II

Different types of animal association- parasitism and types of parasites, primary and secondary hosts, transmission of parasitic infection. Host- parasitic interactions (with reference to bacterial, viral, fungal and parasitic infections). Epidemiology of parasitic zoonosis,

UNIT-III

Parasitic protozoans- Life cycle, pathology and control measures of Mastigophora – Trypanosoma, Giardia. Sarcodina- Entamoeba. Chilophora-Balantidium. Sporozoa-Toxoplasma. Helminth parasites - Life cycle, pathology and control measures of Nematode (Ascaris, Enterobius, Wuchereria),Trematoda(Fasciola) ,Cestoda(Taenia)

UNIT-IV

Morphology, life history and medical importance of disease transmitting vectors- Diptera-Aedes, Culex, Anopheles, and House fly. Siphonoptera:,Echidnophaga, Tunga. Phthiraptera – Pediculus, Pthirus. Hemiptera _ Cimex, Triatoma

Morphology, life history and importance of Acarines Ticks: Argas,Boophilus. Mites: Sarcoptes, Psoroptes

UNIT V

Antibiotics and drug resistance: Principles for mechanisms of antibiotic action, bacteriostatic and bacteriocidal effect. Mechanisms of antibiotics resistance and its importance within the healthcare: MRSA, MDR and XDR in tuberculosis. Antiviral, antifungal, antihelminth drugs.

REFERENCES

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3. Berger, S. A., MarrJ. (2006)Human Parasitic Diseases Sourcebook, Jones & Bartlett.
4. Chandler, A. C. (1944) Introduction to Parasitology, With Special Reference to the Parasites of Man, 7thedition, New York, Wiley.
5. Despommier, Gwadz, Hotez, Knirsch(2005) Parasitic Diseases 5th edition, Apple Trees Productions, LLC.
6. Farrar, J., Hotez P., Junghanss T., Kang G. Lalloo D. and White N. J. (2013) Manson's Tropical Diseases, 23rd edition. Elsevier publication.
7. Margo, W. M. S., PybusJ. And KocanA.A. (2008). Parasitic Diseases of Wild Mammals, 2ndedition, Iowa State University Press, Ames, Iowa, USA
8. Pommerville J.C. Alcamo's Fundamentals of Microbiology. Jones and Bartlett Publishers.
9. Sherman I.W. Malaria Parasite Biology, Pathogenesis and protection. ASM Press.
10. Smyth J.D, Introduction to Animal Parasitology. Cambridge University Press.