CORE VIII

MEDICAL VIROLOGY

Semester	Subject code	Category	Lecture		Theory		Practical		Credit
			Total hrs	Hrs/ week	Total hrs	Hrs / week	Total hrs	Hrs/ week	
VI		Core	75	5	75	5	0	0	5

COURSE OBJECTIVES

To enable the students to understand the causative agents and pathogenicity of virus that causes infection.

COURSE OUTCOMES

On the successful completion of the course, students will be able to understand the viral diseases and how it prevents or control with different antiviral agents.

CO Number	CO Statement	Knowledge Level K1 – K4)
CO1	To remember the classification of virus based on several criteria and about subviral particles	**K1**
CO2	To understand how the replication of virus was happened, cultivation and its diagnostic methods	**K2**
CO3	To understand the diseases caused by DNA containing viruses and its diagnosis	**K2**
CO4	To understand the disease caused by RNA containing viruses and its diagnosis	**K2**
CO5	To remember the preventive measures like antiviral therapy and vaccines for viral diseases	**K1**

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	S	M	M
CO2	S	M	M	S	M	S
CO3	S	S	M	M	S	S
CO4	S	S	M	M	S	S
CO5	S	M	S	M	S	S

S- Strong; M- Medium; L- Low

Unit- I: Introduction to Virology 15 hrs

General properties and classification of viruses based on their hosts, nucleic acid. Structure and properties of viroids, prions, satellite RNAs and virusoids. Viral replication.

Unit-II: General lab diagnosis and cultivation of viruses 10 hrs

Diagnosis of virus infections – isolation, serology, electron microscopy and hybridization techniques. Cultivation of viruses – Animal inoculation, egg and tissue culture.

Unit-III: **DNA Viruses 17 hrs**

Structure, Pathogenesis, Epidemiology, diagnosis, prevention and treatment of Pox, Adeno and Herpes viruses, Hepatitis. Introduction to oncogenic viruses.

Unit-IV: **RNA Viruses 18 hrs**

Structure, Pathogenesis, Epidemiology, diagnosis, prevention and treatment of Rabies viruses, Picorna viruses, Orthomyxo and Paramyxo viruses, Arthropod borne viral diseases, Reo, Rota, Nido, Filo and AIDS viruses

Unit-V: **Prevention and treatment of viral diseases** **15 hrs**

Transmission of viral diseases. Prevention and treatment of viral diseases - Antiviral drugs, viral vaccines – Recombinant vaccines and interferons.

DISTRIBUTION OF MARKS: Theory **-** 100% and Problems – Nil

TEACHING METHODOLOGY:

- **Lectures**
- **Power point presentation**
- **Charts**
- **Models**
- **Group discussion**
- **Group assignments**
- **TEXT BOOKS:**

S.No	Authors	Title	Publishers	Year Of Publication
1.	David Greenwood, Richard C. B.,	"Medical Microbiology."	ELBS with Churchill Livingstone	2003
2.	Ananthanarayanan R. and Jayaram Panicker C.K.	"Textbook of Microbiology".	Orient Longman	2017

REFERENCE BOOKS:

S.No	Authors	Title	Publishers	Year Of Publication
1.	Balow S. A., Hauser. W.J, Ohauhi. M.,and Turano.A	Laboratory diagnosis of infectious	Springer – Vertag, New York	2011

		diseases. Principles and Practice (Vol 1)		
2.	Morag C & Timbury M C	Medical Virology	Churchill Livingston, London	1994
3.	Calender R	The Bacteriophages	Oxford University Press	2005
4.	Jawetz, E., J. L. Melnic and E. A. Adelberg.	Review of Medical Microbiology,	Lange Medical Publishers, New York.	2013.

WEB REFERENCE:

http://web.uct.aqc.za/depts/mmj/jmoodie/welcome1.html

http://vm.cfsan.fda.gov/~mow/intro.html

http://medicine.wustl.edu/virology/

http://www.virilogy.net/garryfavwebaids.html

SYLLABUS DESIGNER:

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