Name: Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Pathogenesis and Management of Human Microbial Diseases **Semester: IV**
Program: B.Sc Microbiology **Time : 03 hrs.**
Course Code: HSMB 2020 **Max. Marks: 100**

Instructions:

Q.No	Section A Short answer questions/ MCQ/True or False	(20Q x1.5M= 30 Marks)	COs
Q	Statement of question		CO
1.	_____is the common test which is used to detect both leprosy and tuberculosis bacilli. A. PCR B. Ziehl Neelson stain C. Culture is gold standard D. All of the above	1.5	CO1
2.	…….. is the virulence factor of peptic ulcer causing pathogen.	1.5	CO1
3.	Mary Mallon was an asymptomatic carrier of ……. disease.	1.5	CO1
4.	'AIDS is a zoonotic disease.' Comment on the statement briefly.	1.5	CO2
5.	See the image below and write the name of the causative agent. 	1.5	CO2
6.	Name the causative agent and the vector of 'Rocky mountain spotted fever.'	1.5	CO2
7.	'The infectious agent causing Syphilis is motile.' Comment in one line on the statement.	1.5	CO2
8.	Name an infectious agent which causes non-invasive diarrhea.	1.5	CO1

9.	What is the most important virulence factor for Gonorrhea causing pathogen?	1.5	CO1
10.	See the figure below and write the scientific name of the disease. 	1.5	CO2
11.	'Man is the intermediate host for *Plasmodium*.' Comment on the statement.	1.5	CO2
12.	Name one method of diagnosis of Leptospirosis.	1.5	CO2
13.	Name the common method for diagnosis of Rocky mountain spotted fever.	1.5	CO2
14.	Name one conjugate and one toxoid vaccine.	1.5	CO2
15.	Pick sexually transmitted disease from below. A. Gonorrhoea B. Syphilis C. Human Papilloma Virus (HPV) D. All of the above	1.5	CO1
16.	Explain in 1-2 lines the regimen of treatment of TB.	1.5	CO1
17.	'TB bacteria has evolved from soil dwelling cousin.' True/False	1.5	CO1
18.	The commonest cause of childhood Pneumonia is …… *A. Chlamydia* *B. Haemophilus influenza* *C. Streptococcus pneumoniae* D. All of the above.	1.5	CO2
19.	How does a microbiologist culture viruses?	1.5	CO2
20.	Name the causative agent of Leptospirosis.	1.5	CO1
	Section B	**(4Qx5M=20 Marks)**	CO
Q	Statement of question		

1.	Write a note on bacterial vaccines. Highlight some differences compared to viral vaccines.	5	CO1
2.	'Superficial mycosis has only cosmetic value.' Comment on the statement.	5	CO2
3.	Write a note or draw a flow chart of Meningitis.	5	CO2
4.	Enlist and describe mode of action of a few important anti-viral drugs.	5	CO2
	Section C	**(2Qx15M=30 Marks)**	
Q	Statement of question (Case studies)		CO
1.	A child suffered from continuous skeletal muscle spasms which were nearly incurable. However, a solution was injected into the baby and it started to show improvement in symptoms. Based on your knowledge in pathogenesis : (i) Identify the disease and its causative agent. (2) (ii) What could be the predisposing factors for child to have acquired this infection? (2) (iii) Is this infectious agent culturable; if so how? (2) (iv) Give pathogenesis, symptoms and diagnosis of the disease. (6) (v) What was possibly given to the child that he showed improvement in symptoms? (2) (vi) Is this disease preventable? (1)	15	CO2
2.	A person showed low platelet counts and fever. Over time he showed worse prognosis with plasma leakage, severe organ impairment and elevation of transaminases. The patient survived. The doctor was unable to give an empiric diagnosis but he took convalescent sera. Given your extensive study of pathogenesis; answer the following: (i) What shall the doctor do with sera that he collected? (3) (ii) What could have caused the pathology – name the pathogen and the disease? (2) (iii) Outline the pathophysiology of the disease. (7) (iv) Please detail on other methods of diagnosis of this pathogen (other than serology). (3)	15	CO1
	Section D	**(2Qx10M=20 Marks)**	
Q	Statement of question		CO
1.	With the help of illustrations and text; outline the pathogenesis of COVID-19. Or	10	CO1

	With the help of illustrations and text; outline the pathogenesis of Penumonia.		
2.	With the help of illustration and text; write pathogenesis of Malaria. What is meant by definitive host for malaria? Differentiate between different types of malarial fevers.	10 (6+1+3)	CO2