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FACULTY OF HEALTH SCIENCES

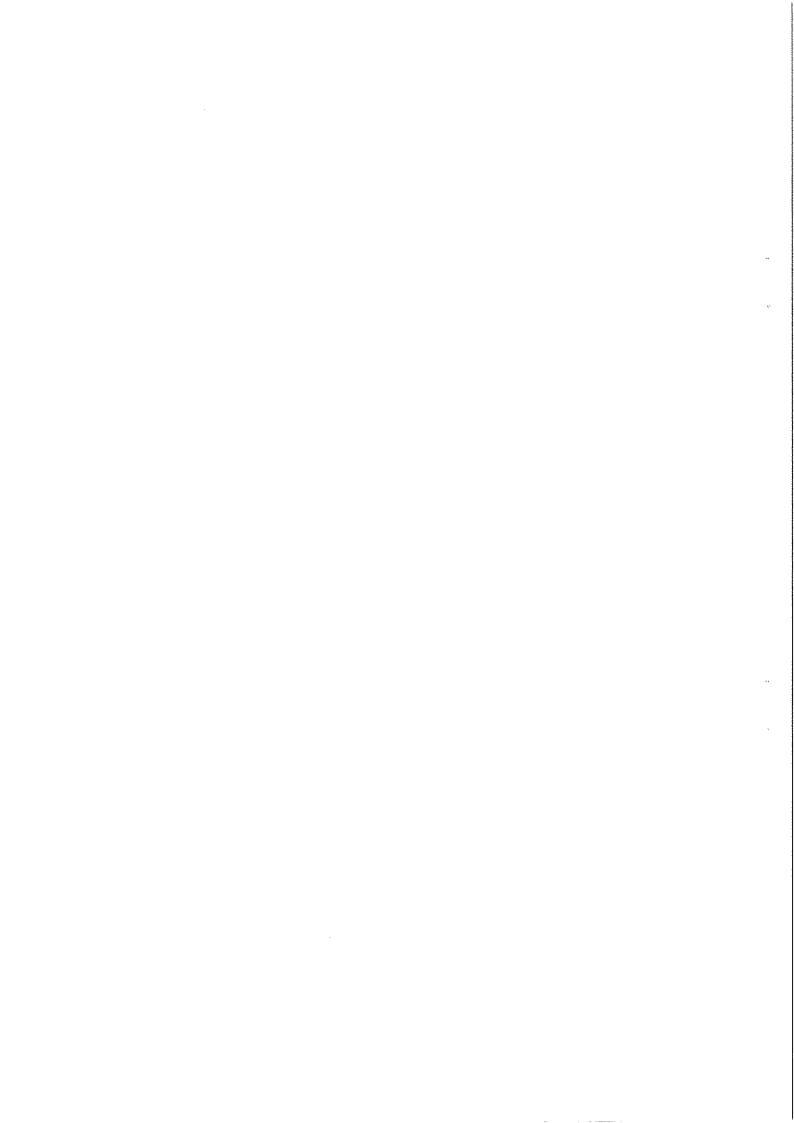
DEPARTMENT OF MEDICAL LABORATORY SCIENCES ACADEMIC YEAR 2018/2019 - SEMESTER IN

BACHELOR OF MEDICAL LABORATORY SCIENCE HONOURS MDU4302 - DIAGNOSTIC BACTERIOLOGY FINAL EXAMINATION

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	•	DURATION:	THREE HOUF
DATE: 28	th NOVEMBER 2019	TIME: 9.30 AM	1 – 12.30 PM
Part B: Sti	ructured Essay Questions (100 marks)		
Q1			
1.1 W1	rite down FOUR (04) protective mechanism	ns present in the respira	atory tract.
			(2 marks)
i.			•••••
ii.			************
iii.			• • • • • • • • • • • • • • • • • • • •
iv.			
feb The	10-year-old boy presented with sore throat a rile and had a history of enlarged tonsils with a boy was suspected of having a streptococcumum the microbiology laboratory.	th no other pertinent m	edical history.
1.2.1	What are the specimen/s sent to the micro	biology laboratory?	(2 marks)
1.2.2	Briefly describe the processing of the abo	ve mentioned (1.2.1) s	pecimen/s for
	streptococcal infection in the microbiolog	y laboratory.	(4 marks)

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1.2.4 State how you would report your findings (positive and negative). (2 mark. 1.3 List FOUR (04) bacterial species that cause typical pneumonia. (4 mark. i. ii. iii. iiv.		Index No:	
1.2.4 State how you would report your findings (positive and negative). (2 marks) 1.3 List FOUR (04) bacterial species that cause typical pneumonia. (4 marks) i. ii. iii. iv. 1.4 How do you instruct a patient to collect sputum samples for the diagnosis of pulmor tuberculosis? (6 marks)	1.2.3	specimen/s mentioned in 1.2.1.	(3 marks)
1.3 List FOUR (04) bacterial species that cause typical pneumonia. (4 mark. i. ii. iii. iv. 1.4 How do you instruct a patient to collect sputum samples for the diagnosis of pulmor tuberculosis? (6 mark.)			
1.3 List FOUR (04) bacterial species that cause typical pneumonia. (4 mark i	1.2.4		
i. ii. iii. iv. 1.4 How do you instruct a patient to collect sputum samples for the diagnosis of pulmor tuberculosis? (6 mark			
ii. iv. iv. 1.4 How do you instruct a patient to collect sputum samples for the diagnosis of pulmor tuberculosis? (6 mark	1.3 Lis	t FOUR (04) bacterial species that cause typical pneumonia.	(4 marks)
tuberculosis? (6 mark	ii. iii.		
			s of pulmonary (6 marks)

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Index No:	0009) <i>]</i> /

	nonary tuberculosis?	(2 marl
otal - 25 m	arks	
22		
.1 List FOU	JR (04) causative agents of watery diarrhea.	(4 marks)
i.		
ii.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
iii.		***************************************
iv.		
.2 What is	the correct specimen type collected for bacteriological	al investigation of watery
diarrhea?		(2 marks)
	you transport the above mentioned specimen (2.2) if t	
.3 How do		(3 marks)
do		(3 marks)

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obiology laboratory for identification of Shigella spp.	(16 marks)
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Q3						
A 35 years old	female wit	h type II diabetes pi	resented	I to the wound	clinic wi	th an infecte
		ng the wound bed, t				
acteriological			110 1100	and offices from	o ooncore.	a ana som n
actononogicai	mvestigatio.	113.				
.1 How do yo	u transport tl	hese specimens to th	e micro	biology labora	torv?	(2 marks)
• • • • • • • • • • • • • • • • • • • •					• • • • • • • • • • • • • • • • • • • •	
	• • • • • • • • • • • • • • • • • • • •					
.2 How do yo	a store these	specimens, if the tra	ansporta	ition is delayed	.?	(2marks)

-	Company of the Control of the Control of Control of the Control of	ndings were obtained >25 Pus cells/LPF Gram-positive cocc	in Table or many photography and program of	Community of the Annie Challe of State committee surprise gray server	CENTRE DE PRODUCTION OF STATE	om the patier
Cul	ture :	Staphylococcus aur		•		S
AB	ST :	Done only for S. au	reus	-		
		Penicillin	R			
		Cefoxitin	S			
		Erythromycin	R	D zone was		
		Clindamycin	R	seen		
	÷	Ciprofloxacin	S			
		Vancomycin	S			
(Tenderman)	B (AND) Bryk by Jarin vyk rhynn gan ag henned gallydg gwy	بر باستنده فر مورود و مورود و مواد و فرای مواد مواد و فرای و در مستن به شود و فادو فرای و شای و در میان و	-		Market of the spiritual states and the same	Danier & State of the State of
2.1 D.:- ii- i	·	DOTb-				(0)
.3.1. Briefly d	iscuss the A	Bot resuits.				(8 marks
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3.3.2	How should you place antibiotics in order to detect the D zone of in	(3 marks)
3.3.3	How do you report the ABST result?	(6 marks)
		•••••
3.4 W 	hat is the drug/ chemical group that clindamycin belongs to?	(2 marks)
3.5 W	hat is the mode of action of clindamycin?	(2 marks)
	······································	

Total - 25 Marks

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		index ivo:	
Q4			
4.1	List F	IVE (05) antibiotic groups that inhibits bacterial protein synthesis?	(5 marks)
	i.		
	ii.		
	iii.		
	iv.		
	٧.		
4.2	Write	down the principle of disc diffusion method of antimicrobial sensitivit	y testing. (11 marks)
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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	* * * * * *	***************************************	

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FIVE (05) facts to be considered while reporting quality control testing of the ABST?	.3 List Fl
(5 marks)	
	i.
	ii.
	iii.
	iv.
	٧.
FOUR (04) relevant corrective actions to be taken for procedures with unexpected	4.4 List F
lts. (4 marks)	results
	i.
	ii.
	iii.
	iv.

Total – 25 Marks

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Index No:				

Part C:	Essay	Questions	(40	marks)

1. Diphtheria is a serious disease caused by toxigenic strains of *Corynebacterium diphtheria*. A 9-year-old boy who presented with fever, tonsillar plaques and respiratory failure was diagnosed as having diphtheria.

Discuss, the laboratory diagnosis of diphtheria in the microbiology laboratory under the following headings:

- a) the type of specimen(s) to be collected
- b) specimen processing using different culture media and expected results/ findings
- c) different staining methods to be used and expected results/ findings
- d) additional identification methods

(20 marks)

There are three major antibiotic resistance patterns in Gram positive bacteria. Describe
the antibiotic resistant patterns in Gram positive bacteria and laboratory tests used to
detect their resistance mechanisms. (20 marks)

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