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4 SEM TDC BIOTCH G 1

2018

(May)

BIOTECHNOLOGY

(General)

Course: 401

(Microbiology and Immunology)

Full Marks: 48
Pass Marks: 19/14

Time: 3 hours

The figures in the margin indicate full marks for the questions

1. Choose the correct answer:

hear argument and group of the

 $1 \times 4 = 4$

- (a) Which of the following statement(s) is/are true for gram-positive bacteria?
 - (i) Cell wall as a thick peptidoglycan layer
 - (ii) Cell wall lipid content is very low
- (iii) Lipopolysaccharide layer is absent
 - (iv) All of the above to and ton

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(Turn Over)

Structure of PPLO with a labelled

2. Write briefly about the following:

(b) ¹	in gram staining, iodine is used as
(-,	(i) fixative
	(ii) mordant MEOSTOFS
	(iii) solubilizer
	(iv) stain
(c)	Name the first organic acid produced by microbial fermentation.
	(i) Citric acid
	(ii) Acetic acid
	(iii) Lactic acid
	(iv) Both (ii) and (iii) STIDE OF STILL J
	The antibodies are of sort are less are
	(i) proteins (law 150 V)
	(ii) carbohydrates Haw Had (iii)
Inaci	(iii) lipids brands neytogogl. (iii)
	(iv) None of the above to IIA (m)
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	diagram
. lo (b)	Ultrastructure of flagella with a labelled diagram
(c)	Symbiosis and antibiosis with suitable examples
3. Ans	wer any two of the following: 10×2=2
	microbial analysis with a suitable diagram. What are auxotrophic
(b)	Define monocistronic genes. Explain the following:
	(i) F ⁺ ×F ⁻ conjugation

(iii) F+ xF' conjugation 1+(3×3)=10 Calculate the cfu for 25 bacterial colonies obtained by plating 0.5 ml of 10⁻⁶ dilution sample. Explain various methods of sterilization with suitable

(ii) Hfr×F conjugation

examples.

(d) Explain different types of immunoglobulins with their structure and 10 functions.

(Turn Over)

4+6=10

4×3=12

- 4. Write short notes on any two of the 6×2=12 following:
 - (a) Various waterborne diseases and their causative agents
 - (b) Antigen-antibody reaction and eldati significance lainte bus elsoidary?
- (c) Hybridoma and myeloma technology and applications is to out was asweak &
 - (d) Transformation and transduction

serial dilution of white samples for

01-2+2+0

(b) Dence monosistronic genes. Explain the

To Six S conjugation

w HirkF conjugation

1-(3×3)-10 nil F' x F' conjugation

Calculate the of for 25 bacterial to loss obsumed by platting Osten to

TOT diagion sample. Event various

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(d) Explain different types of immanoslobulins with their sorteruse and

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