



Master degree in (medical biochemistry and molecular biology)

Blueprint of (Water, electrolytes and acid-base homeostasis) course (Master): Course Code: (BIC504WEA)

The total marks of this course are 150, divided as:

- Workplace-based assessment (20 marks)
- Written exam (80 marks), distributed as follows:

Course content	Teaching hours	Relative weight to the total marks	Total Marks	MCQ Marks	No of exam Q (MCQ)	Short essay questions Marks	No of exam Q (short essay questions)
1-Water is an ideal biologic solvent: a) Water molecules form dipoles. b) Water molecules form hydrogen bonds.	4	11.76%	9	6		3	
2-Interaction with water influences the structure of biomolecules: a) Covalent and noncovalent bonds stabilize biologic molecules. b) Biomolecules fold to position polar & charged groups on their surfaces. c) Hydrophobic interactions. d) Electrostatic interactions. e) Van der Waals forces. f) Multiple forces stabilize biomolecules.	12	35.29%	29	20		9	
3-Water is an excellent	4	11.76%	9	6		3	



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nucleophile: a) Many metabolic reactions involve group transfer. b) Water molecules exhibit a slight but important tendency to dissociate.							
4-pH is the negative log of the hydrogen ion concentration: a) Functional groups that are weak acids have great physiologic significance. b) The Henderson-Hasselbalch equation describes the behavior of weak acids & buffers. c) Solutions of weak acids & their salts buffer changes in pH. d) Acid strength depends on molecular structure. e) pKa values depend on the properties of the medium.	14	41.18 %	33	23		10	
Total	34	100%	80	55		25	

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