

11. There is an overlapping between biochemistry and one of the following subjects of science?

A. Pharmacology

B. Toxicology

C. Physiology

D. Biology

E. Pathology

ANSWER: A

14. The functional group (COOH) is:

- A. Amine group
- B. Phosphate group
- C. Aldehyde group
- D. Hydroxyl group
- E. Carboxyl group

ANSWER: E

19. If you have an acid with $\text{pH} = 6.5$, acid concentration = 0.32, conjugate concentration = 0.32, the pK_a is:

- A. 6.5
- B. 4.3

ANSWER: A

20. Which one of this can make polar covalent bond:

- ~~A. P & H~~
- ~~B. Mg & Ca~~
- C. P & C

36. Genetics?

- Is the study of nucleic acids

38. Regarding phenylketonuria All true except:

- It's characterized with high levels of tyrosine

39. Very active area of research by biochemists:

A. lipidomic and glyceamic

B. pharmacogenetics and genomic

ANSWER: A

45. the concentration of acid ... is .35 and the conjugate base is .35 and the PH is 4.6
calculate the pka:

- 4.6

2. The bonding of unit molecules to produce a polysaccharide is called:

A. condensation

B. translation

C. cellular respiration

D. hydrolysis

E. degradation

ANSWER: A

3. A solution with pH = 5 is, with pH = 7?

- A. 2 times more basic
- B. 10 times more basic
- C. 10 times more acidic
- D. 100 times more acidic

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E. 1000 times more basic

ANSWER: D

6. Which one of the following solutions has stronger acidity?

A. $H = 10^{-7}$

B. $pH = 9$

C. $pH = 6$

D. $pH = 10^a$

E. $pH = 8$

ANSWER:

10. The functional group - NH₂ is a/an

A. amino group

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B. phosphate group

C. hydroxyl group d. carbonyl group

E. carboxyl group

ANSWER: A

14. The bonding of unit molecules to produce a polypeptide is called?

- A. hydrolysis
- B. translation
- C. cellular respiration
- D. Dehydration synthesis
- E. degradation

ANSWER: D

22. One group of these sciences can lead to the understanding of the basis of biochemistry?

- A. Anatomy, physiology, physics and immunology
- B. Chemistry, pharmacology, biology and pathology
- C. Biology, chemistry, physiology and anatomy
- D. Biology, immunology, anatomy and microbiology
- E. Chemistry, pathology, anatomy and pharmacology

ANSWER: C

31. The stronger the acid (choose the correct answer)?

- A. The higher the pK_a
- B. The higher the pH
- C. The lower the K_a and pK_a
- D. The higher the OH^- concentration
- E. The higher the K_a

44. Regarding pH, pKa and Ka, choose the correct answer?

- A. The higher the pH the stronger the acid
- B. The higher the pKa the stronger the acid
- C. For acids, at pH higher than pKa more base than acid
- D. At pH lower than pKa more dissociation to acids
- E. No relation between strength of acid and Ka

ANSWER: C

44. Regarding pH, pKa and Ka, choose the correct answer?

- A. The higher the pH the stronger the acid
- B. The higher the pKa the stronger the acid
- C. For acids, at pH higher than pKa more base than acid
- D. At pH lower than pKa more dissociation to acids
- E. No relation between strength of acid and Ka

ANSWER:



56. The functional group - OH is a /an?

- A. amino group
- B. phosphate group
- C. hydroxyl group
- D. carbonyl group

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E. carboxyl group

ANSWER: C

57. In the formation of a macromolecule, what type of bond would join two amino acids subunits.

- A. Peptide bond
- B. Glycosidic bond
- C. Phosphodiester bond
- D. ionic bond
- E. Hydrogen bond

ANSWER: A

61. The bonding of unit molecules to produce a polysaccharide is called _?

A. condensation

B. translation

C. cellular respiration

D. hydrolysis

E. degradation

ANSWER: A

42. Suppose that the acid (CH_3COOH) has a $\text{pK}_a = 7.76$ was placed in a solution that has a $\text{pH} = 4.25$, the dominant form of this acid in the solution will be?

??

- A. CH_3COOH
- B. CH_3COOH_2
- C. CH_3CH^+
- D. CH_3COO^-
- E. CH_3CO^-

ANSWER:

21. The Henderson Hassel Balch:

- A. show that pH equal to pK_a in all conditions
- B. pH is more than pK_a
- C. pH is less than pK_a
- D. Relative between pH , pK_a , acid concentration, conjugate base concentration.

ANSWER: A

22. The best buffer occurs when:

- A. Conjugate base concentration = weak acid concentration
- B. $pH = 7$
- C. $pH = 7.4$
- D. $pK_a > pH$
- E. $pK_a = 1$

Answer: A

20. Which one of this can make polar covalent bond:

A. P & H

B. Mg & Ca

C. P & C

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D. K & Na

E. Cl & H

Answer: E

4. which of them form the covalent bond:

A. P & H

B. K & Na

C. P & Cl

D. H & Cl

??

ANSWER: