



Library  
Pharmaceutical Technology  
Brainware University  
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- (viii) Choose, which of the following is not falling under benzoisoquinoline category.
- |             |               |
|-------------|---------------|
| a) Thebaine | b) Noscapeine |
| c) Narceine | d) Papavarine |
- (ix) Select Marquis test is useful for detection of \_\_\_\_\_.
- |                 |               |
|-----------------|---------------|
| a) Meconic Acid | b) Thebaine   |
| c) Morphine     | d) Papavarine |
- (x) Select the precursor of tryptophan.
- |                       |                     |
|-----------------------|---------------------|
| a) Dehydroquinic acid | b) Prephenic acid   |
| c) Shikimic acid      | d) Anthranilic acid |
- (xi) Choose from the following, conversion of Phosphoenolpyruvate and erythrose-4-phosphate to 2-keto3- deoxy-7- phosphoglucoheptonic acid is performed using \_\_\_\_\_.
- |                  |                   |
|------------------|-------------------|
| a) DAHP synthase | b) DAHP reductase |
| c) DHQ synthase  | d) DHQ reductase  |
- (xii) Indicate, conversion of  $\text{NH}_3$  to  $\text{NO}_2^-$  to  $\text{NO}_3^-$  is the process of \_\_\_\_\_.
- |                          |                      |
|--------------------------|----------------------|
| a) Nitrification         | b) Nitrogen fixation |
| c) Nitrogen assimilation | d) Deamination       |
- (xiii) Sennosides are \_\_\_\_\_ type of glycoside.
- |                  |                 |
|------------------|-----------------|
| a) cardiac       | b) cyanogenetic |
| c) anthraquinone | d) steroidal    |
- (xiv) Identify the correct answer: the shikimic acid pathway is a crucial route for the biosynthesis of:
- |   |                                  |
|---|----------------------------------|
| a) Amino acids and fatty acids                    | b) Fatty acids and nucleotides   |
| c) Aromatic amino acids and secondary metabolites | d) Nucleotides and carbohydrates |
- (xv) Choose which of the following is ideal for extraction of mentha oil.
- |                      |                       |
|----------------------|-----------------------|
| a) Hydrodistillation | b) Steam distillation |
| c) Both              | d) None               |
- (xvi) Select the correct answer: the biological source of Citronella is \_\_\_\_\_.
- |                         |                        |
|-------------------------|------------------------|
| a) Cymbopogon citratus  | b) Cymbopogon nardus   |
| c) Cymbopogon flexuosus | d) Cymbopogon martinii |
- (xvii) Choose the correct answer: the chemical category of Artemisinin is illustrated as \_\_\_\_\_.
- |                        |                          |
|------------------------|--------------------------|
| a) Triterpene Lactone  | b) Sesquiterpene Lactone |
| c) Monoterpene Lactone | d) Tetraterpene Lactone  |
- (xviii) Illustrate which of the following is not an utilization of Atropine.
- |                  |                                |
|------------------|--------------------------------|
| a) Anti diabetic | b) Antispasmodic               |
| c) Mydriatic     | d) Antidote to opium poisoning |
- (xix) Select the correct answer: Which of the following elements is found in all amino acids.
- |                                 |                                   |
|---------------------------------|-----------------------------------|
| a) Carbon, Hydrogen, and Oxygen | b) Carbon, Hydrogen, and Nitrogen |
| c) Carbon, Hydrogen, and Sulfur | d) Carbon, Oxygen, and Nitrogen   |
- (xx) Select the correct answer: which type of amino acid R-group (side chain) is responsible for forming disulfide bonds between protein chains or within the same chain.
- |                |                      |
|----------------|----------------------|
| a) Hydrophilic | b) Aromatic          |
| c) Aliphatic   | d) Sulfur-containing |

### Group-B

(Short Answer Type Questions)

5 x 7=35

2. Define PUFA and MUFA with example. (5)
3. Explain the critical point in a phase diagram. (5)
4. Explain the disadvantages associated with conventional extraction technique. (5)
5. Discuss the continuous hot extraction process. (5)
6. Illustrate the difference between HPLC and Prep HPLC. (5)
7. Explain the biological sources chemical constituents adulterants and use of one atropine producing plant source. (5)

**OR**

- Explain biosources, chemical constituents of Liquorice and Vinca. (5)
8. Justify the sentence: Microwave Assisted Extraction (MAE) is better extraction method than soxhlet extraction. (5)

**OR**

- Explain the factors affecting the Microwave Assisted Extraction. (5)

### **Group-C**

(Long Answer Type Questions)

10 x 2=20

9. Discuss the application of IR Spectroscopy and NMR in phytochemistry. (10)
10. Explain in detail about super critical fluid extraction. (10)

**OR**

- Summarize the principle, procedure of PC and TLC with detailed diagram. (10)

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