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**BRAINWARE UNIVERSITY**

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Term End Examination 2025-2026**Programme – B.Pharm-2020/B.Pharm-2021/B.Pharm-2022/B.Pharm-2023****Course Name – Pharmacognosy and Phytochemistry II****Course Code - BP504T****(Semester V)****Full Marks : 75****Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Define the full form of DMAPP.
- | | |
|--------------------------------|-----------------------------------|
| a) Dimethylallyl Pyrophosphate | b) Dimethyleneallyl Pyrophosphate |
| c) Dimethylallyl Phosphate | d) Dimethyleneallyl Phosphate |
- (ii) State from where Cholesterol is derived.
- | | |
|-------------|-------------|
| a) lycopene | b) squalene |
| c) carotene | d) geraniol |
- (iii) Select the correct answer: which of the following molecules serves as the primary source of energy for cellular processes in plants.
- | | |
|---------------------------------|------------|
| a) Glucose | b) Starch |
| c) ATP (Adenosine Triphosphate) | d) Nitrate |
- (iv) Identify the correct answer: which of the following molecules serves as the starting substrate for the shikimic acid pathway.
- | | |
|------------------------|------------------------------|
| a) Pyruvate | b) Acetyl-CoA |
| c) Glucose-6-phosphate | d) Phosphoenolpyruvate (PEP) |
- (v) Identify the correct answer: which enzyme catalyzes the conversion of shikimate-3-phosphate to chorismate in the shikimic acid pathway.
- | | |
|--|----------------------------|
| a) Shikimate dehydrogenase | b) Chorismate synthase |
| c) 5-enolpyruvylshikimate-3-phosphate synthase (EPSP synthase) | d) Arogenate dehydrogenase |
- (vi) Terpenes are recognized to be prepared from ____.
- | | |
|------------------|-------------------|
| a) Simple sugars | b) Mevalonic acid |
| c) Amino acids | d) None of these |
- (vii) Periwinkle is another name of ____.
- | | |
|----------|---------------|
| a) Opium | b) Belladonna |
| c) Vinca | d) Rauwolfia |
- (viii) Ajmaline is obtained from.

- a) Belladonna
c) Ruta
- b) Vinca
d) Rauwolfia
- (ix) Express the chemical tests of phytosterols.
- a) Biuret's test
c) Barfoed's test
- b) Salkowski's test
d) Legal's test
- (x) Identify which of the following instrument is useful for hydrodistillation of volatile oil.
- a) Soxhlet apparatus
c) Cleavanger apparatus
- b) Erlen Mayer flask
d) Rotavapor apparatus
- (xi) Identify which of the following falls under piperidine alkaloid.
- a) Hygrine
c) Seneconiine
- b) Nicotine
d) Quinine
- (xii) Express, the plant, Devil's dung belongs to the family ____.
- a) Apocynaceae
c) Umbelliferae
- b) Liliaceae
d) All
- (xiii) Identify which of the following is a test for Cinchona?
- a) Raymond's test
c) Thalleoquin test
- b) Millon's test
d) Van Urk Test
- (xiv) Identify the odd one in the biogenesis of flavonoid pathway.
- a) Phenylalanine
c) Cinnamic acid
- b) Pyrophosphate
d) Cyanidin
- (xv) Melting point of Morphine is expressed as.
- a) 197 oC
c) 270 oC
- b) 340 oC
d) 150 oC
- (xvi) Pilocarpine is interpreted as ____.
- a) Solid in nature
c) Liquid in nature
- b) Semi-solid in nature
d) None of these
- (xvii) ____ and ____ families are free from alkaloids.
- a) Apocynaceae, Rubiaceae
c) Rosaceae, Labiatae
- b) Solanaceae, Papaveraceae
d) Piperaceae, Loganiaceae
- (xviii) Vasicine is obtained from ____.
- a) Adhatoda vasica
c) Atropa belladonna
- b) Vinca rosea
d) Rauwolfia serpentina
- (xix) Belladonna is belonging to family of ____.
- a) Apocynaceae
c) Taxaceae
- b) Scrophulariaceae
d) Solanaceae
- (xx) Choose the other name of Paclitaxel.
- a) Caffeine
c) Sennoside
- b) Podophyllotoxin
d) Taxol

Group-B

(Short Answer Type Questions)

5 x 7=35

2. Describe the separation and isolation of labelled compound. (5)
3. Explain the two categories of phytochemicals produced in a plant life. (5)
4. Explain estimation and use of artemisinin. (5)
5. Explain estimation and use of sennoside. (5)
6. Demonstrate in detail about the pharmacognostic character of clove. (5)
7. Explain the properties of an ideal solvent. (5)

OR

- Express your understanding on spectroscopy. (5)
8. Explain biosources, chemical constituents of Liquorice and Vinca. (5)

OR

- Write the quantitative analysis of alkaloids. (5)

Group-C

(Long Answer Type Questions)

10 x 2 = 20

9. Describe the comparison SFE provides over other conventional extraction methods. (10)
10. Summarise biology macroscopy and microscopy of senna. (10)

OR

- Explain the pharmacognostic properties of guggul and asafoetida. (10)
