

Exam Date & Time: 04-Jan-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmacognosy and Phytochemistry II [PCO-BP504T]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Shikimic acid 3-phosphate condenses with phosphoenol pyruvate with elimination of water leads to the formation of
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|-------------------|--------------------------------|------------------------|-------------------|
| 1) Prephenic acid | 2) Shikimic acid pyrophosphate | 3) Phenyl pyruvic acid | 4) Chorismic acid |
|-------------------|--------------------------------|------------------------|-------------------|
- (1)
- 2) Citral-B is
- | | | | |
|----------|-------------|-------------|----------------|
| 1) Neral | 2) Geranial | 3) Geraniol | 4) Citronellal |
|----------|-------------|-------------|----------------|
- (1)
- 3) Isopentenyl pyrophosphate and its isomer Dimethylallyl pyrophosphate serves as the basis for the biosynthesis of
- | | | | |
|------------------|-------------|------------------------|---------------------|
| 1) Volatile oils | 2) Steroids | 3) Carotenoid pigments | 4) All of the above |
|------------------|-------------|------------------------|---------------------|
- (1)
- 4) Sennoside A and B are dimeric glycosides of
- | | | | |
|----------------|----------|-----------|-----------------|
| 1) Aloe-emodin | 2) Rhein | 3) Emodin | 4) Chrysophanol |
|----------------|----------|-----------|-----------------|
- (1)
- 5) Following is a diarylheptanoid compound
- | | | | |
|------------|--------------|----------|-------------|
| 1) Quinine | 2) Reserpine | 3) Taxol | 4) Curcumin |
|------------|--------------|----------|-------------|
- (1)
- 6) One of the carbon is a stable isotope
- | | | | |
|--------------------|--------------------|--------------------|--------------------|
| 1) ^{10}C | 2) ^{11}C | 3) ^{12}C | 4) ^{14}C |
|--------------------|--------------------|--------------------|--------------------|
- (1)

7) Catechol on treatment with hot acids, C-C bonds are broken and release monomers of (1)

1) Carotenoids	2) Anthocyanidins	3) Chlorogenic acid	4) Lignans
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8) Rutin on hydrolysis yields

1) Quercetin, rhamnose and galactose	2) Quercetin, rhamnose and glucose	3) Quercetin, rhamnose and arabinose	4) Quercetin, rhamnose and digitoxose
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9) Following phytoconstituents is used as a mineral ice

1) Atropine	2) Sennoside	3) Citral	4) Menthol
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10) Autoradiography is a technique used for the location of

1) Unstable isotopes	2) Stable isotopes	3) Protons	4) Neutrons
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11) Aloin is

1) Chrysoin- 3-O- glucoside	2) Chrysoin- 3-O- Rhamnoside	3) Barbaloin-3- O-glucoside	4) Barbaloin-3- O-Rhamoside
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12) Taxol is used to treat

1) Hypertension	2) Arthritis	3) Obesity	4) Cancer
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13) Caffeine answers

1) Baljet test	2) Shinoda test	3) Muroxide test	4) Thallioquin test
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14) Dihydro indole part of Viblastine is called as

1) Catharanthine	2) Vindoline	3) Vinorelbine	4) Leurocristine
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15) Gitaloxigenin differs at 16th position from Digitoxigenin by having (1)

1) Formyl group	2) Hydroxyl group	3) Methyl group	4) Acetyl group
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16) Saponins causes haemolysis of RBC due to the presence of

1)	Sterols		2)	Proteins		3)	Carbohydrates		4)	Carotenoids		(1)
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17) Cleavage of a bond between 7 and 8 position of cyclopentanopyran ring gives rise to a subclass known as

1)	Secoiridoids		2)	Enterodiol		3)	Enterolactone		4)	Naphthaquinones		(1)
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18) Solubility of the sennoside is optimum in water miscible organic solvents having water content

1)	10%		2)	20%		3)	30%		4)	40%		(1)
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19) Which phytoconstituents is used to treat advanced form of Kaposi's sarcoma

1)	Forskolin		2)	Taxol		3)	Podophyllotoxin		4)	Quinine		(1)
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20) Which of the following wave number is considered as mid IR

1)	4000 cm ⁻¹ to 400 cm ⁻¹		2)	4000 cm ⁻¹ to 500 cm ⁻¹		3)	4000 cm ⁻¹ to 600 cm ⁻¹		4)	4000 cm ⁻¹ to 700 cm ⁻¹		(1)
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II Long Answers

Answer all the questions.

- A. What are Alkaloids? Describe the general properties and nitrogen of alkaloids (2+2+1).
 B. Give the source, family, active constituents, uses of Rauwolfia and Opium (2.5+2.5) (10)
- Briefly describe various spectroscopic methods of analysis of phytoconstituents (10)

III Short Answers

Answer all the questions.

- Explain the industrial production, estimation and utilization of Caffeine (5)
- Give the Shikimic acid pathway and its significance (5)

- 3) Give the biological source and utilization of a) Forskolin b) Vincristine and vinblastine. (5)
- 4) What are Cardiac glycosides? Give their chemistry and two identification tests (1+2+2) (5)
- 5) Give the biological source, explain the isolation, identification and analysis of Citral (5)
- 6) Explain Droplet Counter Current Chromatography with neat labelled diagram as separation technique for the phytoconstituents (5)
- 7) Give an account of Phenyl propanoids and flavonoids with their identification test (4+1) (5)

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