Paper / Subject Code: 69115 / Pharmacognosy & Phytochemistry I

Duration: 3 hours **Total marks: 75**

N.B.: 1. Answer all questions sequentially.
2. Figures to right indicate full marks

Q. 1 Choose appropriate option for following multiple choice based questions. 20M

1 The enzyme which is produced by the larvae of the silk moth is
- a Pepsin
- b Urokinase
- c Serratiopeptidase
- d Streptokinase

2. A wedge-shaped piece of wood is used to make incision on the bark. The gum exudes immediately and is collected 2 days after the incision. The method is described for
- a Agar
- b Acacia
- c Tragacanth
- d Guar gum

3. Jute gives pink colour with Phloroglucinol and HCl. This is due to the presence of _____ in jute
- a cellulose
- b lignin
- c suberin
- d hemicellulose

4. Lanolin has the following features except one. Identify
- a It contains the chief constituent cholesterol
- b It is saponified by aqueous alkali
- c It is insoluble in water but soluble in organic solvents
- d It gives positive Liebermann Burchard test

5. Resin and Gums can be differentiated by
- a Resins are soluble in alcohol whereas Gums are not
- b Resins are soluble in water whereas Gums are not
- c Gums soften on heating while resins will not
- d Both resin and gums have same properties and hence cannot be differentiated

6. An example of physical mutagen is
- a Nitrogen mustards
- b Nitrous acid
- c X rays
- d acridines

7. The _____ of medicine believes in the theory of humours proposed by Greek physician Hippocrates
- a Ayurvedic system
- b Unani system
- c Homeopathic system
- d Allopathic system

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8. Cutting, layering and grafting are examples of
a natural vegetative propagation
b Artificial vegetative propagation
c sexual propagation
d None of the above

9 One of the following is a natural pest control agent
a DDT
b gammaxene
c Bordeaux mixture
d Azadirachtin

10 _____ part of total ash represents siliceous compounds
a Water soluble ash
b Water insoluble ash
c Acid insoluble ash
d Acid soluble ash

11 All the following are functions of cytokinin's except one. Identify
a Prevents degradation of cells in ageing leaves
b promotes cell division
c causes stem elongation
d helps in development of embryos

12 Botanical gardens, In vitro fertilisation, Tissue culture propagation and cryopreservation are examples of
a Ex-situ conservation
b In-situ conservation
c Exotic conservation
d Endangered conservation

13 An example of organised drug is
a Agar extract
b Senna leaflets
c Opium latex
d Castor oil

14 What exactly is an explant?
a Plant part that is grown in soil
b Plant part that has been removed and grown in test tube
c An unorganised mass of cells that is grown from a plant part
d An organised mass of cells that is grown from a plant part

15 Which hormones in plants regulates fruit ripening?
a. Ethylene
b. Auxin
c. Gibberellins
d. Abscisic Acid

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16 Fehling's test is given by
a Carbohydrates and glycosides
b Alkaloids and carbohydrates
c Alkaloids and glycosides
d Alkaloids and Tannins

17 When crude drugs are arranged in the order according to the external character of plant part it is called
a Chemical classification
b Alphabetic classification
c Morphological classification
d Pharmacological classification

18 Plant tissue culture can be defined as
a. in vitro development of cells
b. In vivo cell culture method
c. Sexual propagation in plants
d. The method of plant-cutting

19. Agrobacterium tumefaciens is used to create
a. hybrid plants
b. transgenic plants
c. mutant plants
d. polyploidy in plants

20. This class of compounds contains the following ring . Identify.

a steroid class
b triterpenoid class
c anthraquinone class
d isothiocyanate class

Q. II A Answer any two of the following. 20 M

1a Give biological source, method of preparation, chemical constituent and identification test for Acacia **(5 M)**

1b. Draw the heterocyclic nucleus/ general structure and write one example with its use, chemical test for the following phytoconstituents. **(5 M)**
i. Anthraquinone class of glycoside
ii. Indole alkaloid

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2a Explain the biological method of evaluation of DONO with two examples. **(5 M)**

2b Write a note on important milestones in the history of plant tissue culture and give its application in pharmacognosy **(5 M)**

3a Explain in detail the collection of DONO with examples **(5 M)**

3b Differentiate between absorbent and Non absorbent cotton with respect to preparation, Chemical test and uses **(5 M)**

Q.II. Answer any seven out of the nine **35 M**

1. Write a note on marine drugs with example
2. Classify Tannins with examples, state their properties and chemical test.
3. a. Write a note on hybridisation
   b. Give the chemistry and two functions of auxins
4. Enlist different types of plant tissue cultures techniques and explain any two environmental factors that affect the cultivation of plants.
5. Give advantages & disadvantages of Pharmacological and alphabetical classification of drugs
   of natural origin.
6. Enlist the physical evaluation parameters and explain the significance of any two parameters.
7. Discuss the protein gelatin and casein in detail.
8. a. Mention two points signifying the role of Pharmacognosy in Ayurvedic system of medicine.
   b. Explain any two hallucinogens with examples
9. Draw the heterocyclic nucleus/ general structure and write one example with its use , chemical test for the following phytoconstituents
   a. Flavanoid class of glycoside
   b. Monoterpenoid class of volatile oils

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