

Total No. of printed pages = 6

**BP 603T**

Roll No. of candidate

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Hatkhowanara, Azara, Ghy-17

**2023**

**B.Pharm. 6<sup>th</sup> Semester (Regular) End-Term Examination**

**HERBAL DRUG TECHNOLOGY (THEORY)**

**(New Regulation (w.e.f. 2017-2018))**

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks  
for the questions.

Answer question No. 1 and any *six* from the rest.

PART A

Multiple choice questions :

1. Choose the correct answer from the following : (20 × 1 = 20)
- (i) Which of the following is a herbomineral preparation?
- (a) Vati  
(b) Bhasma  
(c) Lehya  
(d) Ghutika
- (ii) In Siddha system of medicine, predominant Vata is characterized by which of the following?
- (a) Stout, black, cool and inactive personalities  
(b) Lean, whitish, hot and active personalities  
(c) Well build, good complexioned body and well behaved personalities  
(d) None of the above
- (iii) In Homeopathic system of medicine, the centesimal potency is denoted by which of the following letter?
- (a) Letter 'A'  
(b) Letter 'X'  
(c) Letter 'C'  
(d) Letter 'P'

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- (iv) Which of the following is used to determine the specific gravity of alcohol content in samples?
- (a) Clevenger
  - (b) Pyknometer
  - (c) Kjeldahl
  - (d) None of the above
- (v) Which of the following is applicable for authentication of herbal materials?
- (a) Taxonomic method
  - (b) Chromatographic methods
  - (c) DNA fingerprinting techniques
  - (d) All of the above
- (vi) Which of the following coenzyme is commonly used to regulate the insulin synthesis in diabetes?
- (a) Coenzyme A
  - (b) Coenzyme B
  - (c) Coenzyme Q10
  - (d) None of the above
- (vii) Which of the following nutraceutical substance is useful to reduce the cholesterol and triglyceride level?
- (a) Palmitic acid
  - (b) Stearic acid
  - (c) Oleic acid
  - (d) Omega-3-fatty acid
- (viii) Which of the following plant is 'Alfalfa'?
- (a) *Medicago sativa*
  - (b) *Cichorium intybus*
  - (c) *Trigonella foenum-graecum*
  - (d) *Emblica officinalis*

(ix) Which of the following nutraceutical is commonly known as 'Indian Gingseng'?

- (a) Fenugreek
- (b) Ashwagandha
- (c) Spirulina
- (d) Alfaalfa

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(x) Phytosomes is an advanced drug delivery system composed of natural active ingredients along with which of the following?

- (a) Phospholipids
- (b) Fats and oils
- (c) Carbohydrates
- (d) Triglycerides

(xi) The active constituents (natural dye) responsible for the golden colour of Saffron is \_\_\_\_\_

- (a) Indigo
- (b)  $\alpha$ -crocin
- (c) Lawsone
- (d) Curcumin

(xii) Which of the following is a commonly used natural diluent?

- (a) Glucose
- (b) Fructose
- (c) Lactose
- (d) Ribose

(xiii) The antioxidant property of 'Amla' fruits is due to which of the following phytoconstituents?

- (a) Vitamin A
- (b) Vitamin B
- (c) Vitamin C
- (d) Vitamin K

(xiv) Foaming index indicates the determination of \_\_\_\_\_

- (a) Inorganic substances
- (b) Alkaloids
- (c) Carbohydrates
- (d) Saponins

(xv) Which of the following guidelines is/are used for assessing the quality control of herbal drugs?

- (a) WHO guidelines
- (b) ICH guidelines
- (c) EU guidelines
- (d) All of the above

(xvi) Which of the following is an Intellectual Property Rights?

- (a) Patent
- (b) Trademark
- (c) Copyright
- (d) All of the above

(xvii) As per the WHO guidelines, which of the following is a physico-chemical parameter used to evaluate herbal drugs?

- (a) Evaluation for morphological characters
- (b) Evaluation for microscopical characters
- (c) Evaluation for Ash Value
- (d) None of the above

(xviii) For the stability testing of drugs, 'temperate climate' falls under which of the following Zone?

- (a) Zone-I
- (b) Zone-II
- (c) Zone-III
- (d) Zone-IV

(xix) Who among the following is the chairman of ASU-DTAB?

- (a) Director General of Health Services
- (b) Director, Central Drug Research Institute
- (c) Director, Central Council for Research in Ayurvedic Sciences
- (d) Director, National Botanical Research Institute

(xx) What is the full abbreviated form of 'ICH'?

- (a) Internal Central for Harmonization
- (b) International Council for Harmonization
- (c) Indian Council for Harmonization
- (d) None of the above

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#### PART B

Answer the following questions (*any seven*):

(7 × 5 = 35)

2. Write a note on organic farming with suitable examples. (5)
3. Give the possible herb-drug interaction arising from hypericum, kava-kava and gingseng. (5)
4. Define nutraceuticals and explain in details the health benefits of nutraceuticals in the management of diabetes. (5)
5. Define bio-pesticide and describe the different steps involved to control pest in medicinal plants. (1+4)
6. Give a concept note on herbal cosmetics with examples. (5)
7. Write a brief note on the plant based industries and institutions involved in the development of products from medicinal and aromatic plants in India. (5)
8. Describe the constitution and functions of ASU-DTAB. (5)
9. Define polyherbal formulations. Write a brief note on the preparation of phytosomes. (5)

10. Write a short note on any one of the following: (5)
- (a) Schedule Z of drugs and cosmetic act for ASU drugs.
  - (b) Schedule T with components of GMP for herbal medicine.

PART C

Answer the following questions (*any two*): (2 × 10 = 20)

11. Define biopiracy and breeder's right. Explain in detail the concept of biopiracy taking into account the case study of curcuma. (2+8)
12. Explain systematically in details the parameters for the evaluation and assessment of herbal drugs as per ICH guidelines. (10)
13. Define tridosha and rasa-guna. Explain in detail the basic principles involved in Ayurveda and Homeopathy. Describe the preparation and standardization of Arista. (2+4+4)
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