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2022

B.Pharm. 6th Semester End-Term Examination

HERBAL DRUG TECHNOLOGY (THEORY)

(Regular)

(New Regulation)

Full Marks – 75

Time – Three hours

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

SECTION – A (Multiple choice questions)

1. Choose the correct answer from the following: (20 × 1 = 20)
- (i) In India, up to how many years a patent is officially valid from the date of filing of application?
- (a) 10 years (b) 20 years
(c) 30 years (d) 100 years
- (ii) Which of the following plant is used as hair tonic?
- (a) Bhringraj (b) Acacia
(c) Stevia (d) Ginger
- (iii) Who among the following is the chairman of the ASU-DTAB?
- (a) The Director General of Health Services, India
(b) Government Analyst nominated by the Central Govt.
(c) The drugs controller of India
(d) The Director of Central drugs Laboratory, Kolkata
- (iv) Which of the following Government Department is used to identify plant species?
- (a) Geological Survey of India
(b) Botanical Survey of India
(c) Anthropological Survey of India
(d) Zoological Survey of India

[Turn over

- (v) Which of the following is the botanical name of Ashwagandha?
 (a) *Allium sativum* (b) *Piper longa*
 (c) *Withania somnifera* (d) *Trigonella foenum-graecum*
- (vi) Which of the following is commonly used natural diluents for tablet compression?
 (a) Cellulose (b) Mannitol
 (c) Glycol (d) Glycerine
- (vii) The yellow active constituents responsible for the colorant effect of Turmeric is _____.
 (a) Lawsone (b) Curcumin
 (c) Quercetin (d) Inulin
- (viii) Which of the following is the suitable analytical marker component for Amla?
 (a) Elagic acid (b) Cinchotannic acid
 (c) Cinnamic acid (d) Ascorbic acid
- (ix) Which of the following drugs leads to Dark Urine as side effects?
 (a) Hypericum (b) Kava-kava
 (c) Garlic (d) Gingseng
- (x) Which of the following is the correct scientific botanical name of Alfaalfa?
 (a) *Piper longum* (b) *Medicago sativa*
 (c) *Aliuni sativum* (d) *Curcunza longa*
- (xi) Chicory is rich in which of the following nutraceutical component?
 (a) Folic acid (b) Omega-6-fatty acid
 (c) Inulin (d) Phytosterol
- (xii) Which of the following basic principles is/are applicable under Homeopathic system of medicine?
 (a) Law of dynanaization (b) Law of individualization
 (c) Principle of minimum dose (d) All of the above
- (xiii) Rhasma is an Ayurvedic preparation which is prepared in which of the following dosage form?
 (a) Powdered herbo-metallic preparation
 (b) Liquid preparation
 (c) Semi-solid preparation
 (d) None of the above
- (xiv) Fenugreek belongs to which of the following plant Family?
 (a) Apocyanaceae (b) Liliaceae
 (c) Umbelliferae (d) Leguminosae
- (xv) In quality control standardization of herbal drugs, which of the following is a physicochemical parameter?
 (a) Ash value (b) Loss on drying
 (c) Foreign matter content (d) All of the above

- (xvi) Which of the following is NOT patentable?
- (a) Biotechnological products
 (b) Law of nature
 (c) Pharmaceutical formulation and drug design
 (d) None of the above
- (xvii) Which of the following is an essential polyunsaturated fatty acid usually incorporated in nutraceuticals?
- (a) Linoleic acid (b) Oleic acid
 (c) Omega-3 fatty acid (d) None of the above
- (xviii) The good manufacturing practice (GMF) of ASU drugs is described in which of the following schedule of Drugs and Cosmetic Act and Rule 1945?
- (a) Schedule C (b) Schedule E
 (c) Schedule T (d) Schedule X
- (xix) In herbal formulation technology, which of the following is a Novel drug delivery system?
- (a) Phytosome (b) Vati
 (c) Polyherbal extracts (d) Tincture
- (xx) Which of the following is a product developed by Regional Research Laboratory (Lucknow)?
- (a) Artemisinin (b) Xanthotoxin
 (c) Pyrethrin (d) All of the above

SECTION - B

2. Answer the following questions (*any seven*): (7 × 5 = 35 marks)
- (a) Match the following: (5 × 1 = 5)
- | Group A | Group B |
|-------------------------------|------------------------|
| (A) Natural disintegrants | (i) Talc |
| (B) Natural glidants | (ii) Acacia |
| (C) Natural hair colourant | (iii) Starch |
| (D) Natural Emulsifying agent | (iv) Steviolglycosides |
| (E) Natural sweeteners | (v) Lawsone |
- (b) Justify the following in very short: (5 × 1 = 5)
- (i) Why fumigation of finished herbs is required?
 (ii) Why hypericum should never be given along with warfarin?
 (iii) Why alcohol consumption should be avoided along with kava-kava?
 (iv) Why drugs rich in water soluble components are restricted to be collected during rainy season?
 (v) Why biopesticides are far better than chemical pesticides?

- (c) Define the following terms with a suitable example. (5 × 1 = 5)
- (i) Patent
 - (ii) Trademark
 - (iii) Natural binders
 - (iv) Intellectual property rights
 - (v) Biopiracy
- (d) Give the full abbreviated form of AYUSH and describe the basic principles involved in Homeopathic system of medicine. (2+3)
- (e) Define herbs and herbal medicines. Describe the selection, identification and authentication of herbal materials. (1+4)
- (f) Define with examples the herb-drug and herb-food interaction. Describe the herbal interaction taking place with kava-kava. (2+3)
- (g) Classify herbal excipients with examples and give the advantages and disadvantages of herbal excipients. (2+3)
- (h) Enumerate the different parameters used to assess the quality and standardization of herbal drugs as per WHO guidelines. (5)
- (i) Describe the scope and future prospects of herbal drug industry. (5)

SECTION - C

3. Answer the following questions (*any two*) (2 × 10 = 20 marks)
- (a) Define the term Arista, Uhasma, Lchya and Churna Describe in detail the preparation and standardization methods for Bhasma and Arista. (2+4+4)
- (b) Define nutraceuticals. Give in detail the health benefits of nutraceuticals in the management of diabetes and cancer. Write a note on the nutraceutical properties of Alfaalfa herb. (1+6+3)
- (c) Write a short note on the following (*Any two*) (5+5)
- (i) Stability testing of herbals
 - (ii) ASU-DTAB
 - (iii) Processing of herbal raw materials
 - (iv) Phytosomes

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