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2024

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Girijananda Chowdhury University
Hatkhowapara, Azara, Ghy-17

B.Pharm. 6th Semester (Regular) End-Term Examination

HERBAL DRUG TECHNOLOGY (THEORY)

New Regulation (w.e.f. 2017-18)

Full Marks – 75

Time – Three hours

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

PART – A

Multiple choice questions :

1. Choose the correct answer from the following: (20 × 1 = 20)
 - (i) Which of the following criteria is applicable for the identification and authentication of herbs?
 - (a) Taxonomic identification
 - (b) Chromatographic techniques
 - (c) DNA fingerprinting techniques
 - (d) All of the above
 - (ii) Which of the following medicinal uses is applicable to Bhringraj oil?
 - (a) Hair tonic
 - (b) Emollient
 - (c) Colourant
 - (d) None of the above
 - (iii) Which of the following's used to determine the specific gravity of alcohol content in samples?
 - (a) Clevenger apparatus
 - (b) Andersen apparatus
 - (c) Pyknometer apparatus
 - (d) Tutwiler Apparatus
 - (iv) Which of the following is a prebiotics?
 - (a) Inulin
 - (b) Soyabean
 - (c) Yogurt
 - (d) None of the above

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- (v) Nutraceutical substance 'Omega-3-fatty acid' is commonly used to manage
- (a) Insulin level
 - (b) SOPT and SGOT level
 - (c) Cholesterol and triglyceride level
 - (d) Hormonal imbalance
- (vi) Which of the following is true for Phytosomes?
- (a) Colloidal particles
 - (b) Herbal mixtures
 - (c) Microspheres
 - (d) Herbal ingredients bonded by phospholipids
- (vii) Which of the following chromatographic techniques is routinely used for the standardization of herbals?
- (a) Ion exchange chromatography
 - (b) High performance thin layer chromatography
 - (c) Gel-permeation chromatography
 - (d) None of the above
- (viii) The natural colorant effect of 'Heena' plant is due to _____
- (a) Curcumin
 - (b) Lawsone
 - (c) Quercetin
 - (d) Serpentine
- (ix) The expiry date of an Indian patent is _____ years
- (a) 5 years
 - (b) 10 years
 - (c) 15 years
 - (d) 20 years
- (x) Who is the Chairman (ex-officio) of the ASU-DTAB?
- (a) The Director General of Health Services, India
 - (b) The Drugs Controller of India
 - (c) The Director of the central Drugs Laboratory, Kolkata
 - (d) None of the above
- (xi) Foaming index indicates which of the following activity?
- (a) Presence of mucilage
 - (b) Presence of saponins
 - (c) Presence of polyphenolics
 - (d) Presence of proteins

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- (xii) Which of the following parameter is associated with 'Q1' in ICH quality guidelines?
- (a) Impurities (b) Specifications
(c) Analytical validation (d) Stability
- (xiii) Which of the following is a commonly used ointment base in the preparation of semi-solid dosage form?
- (a) Starch (b) Bees wax
(c) Tween-80 (d) Lactose
- (xiv) Ginseng is indigenous to which country?
- (a) China (b) Japan
(c) India (d) South Africa
- (xv) For the stability testing of drugs, 'Zone II' is applied for which of the following climatic conditions?
- (a) Temperate (b) Subtropical
(c) Hot-Dry (d) Hot-Humid/Tropical
- (xvi) Garlic is contraindicated with which of the following drugs?
- (a) Anticancer drugs (b) Anticoagulant drugs
(c) Pain killer drugs (d) Antidiabetic drugs
- (xvii) Botanical name of Kava Kava is _____
- (a) Piper capense
(b) Piper nigrum
(c) Piper longum
(d) Piper methysticum
- (xviii) Which part of Stevia plant is used to isolate the natural sweetener?
- (a) Root (b) Stem
(c) Leaf (d) Fruit
- (xix) 'Chyawanprash' belongs to which of the following Ayurvedic dosage form?
- (a) Liquid dosage form
(b) Solid dosage form
(c) Semi-solid dosage form
(d) Parenteral dosage form
- (xx) Which of the following Pharmaceutical Industry is purely Ayurvedic based?
- (a) Glaxo-smith (b) Baidyanath
(c) Lupin Limited (d) None of the above

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PART – B

2. Answer the following questions (any seven) : (7 × 5 = 35)

- (a) Discuss the possible herb–thug interaction arising from kava–kava and Ginkobiloba. (5)
- (b) Examine with suitable examples the health benefits of nutraceuticals in the management of diabetes. (5)
- (c) Examine the process of how herbal syrups and mixtures are formulated. (2.5+2.5)
- (d) Give the mechanistic role of natural antioxidants in skin care citing suitable examples. (5)
- (e) Predict and discuss the scientific methods for selection and authentication of herbals. (5)
- (f) Distinguish the following in brief : (5)
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- (i) Farmer's right and Breeder's right.
- (ii) Bioprospecting and Biopiracy.
- (g) Define phytosomes and illustrate the scientific methods on its preparation. (5)
- (h) Outline five major herbal industries and research institutions each in India which are involved in the development of products from medicinal and aromatic plants in India. (5)
- (i) Write a brief note on any one of the following : (5)
 - (i) Schedule Z of drugs and cosmetic act for ASU drugs. (5)
 - (ii) Schedule T with components of GMP for herbal medicine. (5)

PART – C

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

- (a) Outline the basic principles involved in Ayurveda, Siddha, Unani and Homeopathy. Describe the preparation and standardization of Arista. (5+5)
- (b) Define and classify nutraceuticals with suitable examples. Describe the significance of nutraceuticals used as health foods with special emphasis on Chicory and Amla. (1+3+3+3)
- (c) Categorize the various standardization parameters required for the evaluation and assessment of herbal drugs as per WHO guidelines and describe any two physicochemical parameters in detail. (4+3+3)