

Total No. of printed pages = 4

## BP 806 ET

Roll No. of candidate

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2021

### B.Pharm. 8<sup>th</sup> Semester End Term Examination

### QUALITY CONTROL AND STANDARDIZATION OF HERBALS

(New Regulation)

(W.e.f. 2017-18)

Full Marks – 75

Time – Three hours

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

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

#### GROUP – A

1. Multiple choice questions : (20 × 1 = 20)
- (i) ICH was incepted in the year
    - (a) 1990
    - (b) 1991
    - (c) 1992
    - (d) 1993
  - (ii) In chromatography, the stationary phase can be \_\_\_\_\_.
    - (a) Solid or liquid
    - (b) Liquid or gas
    - (c) Solid only
    - (d) Liquid only
  - (iii) Preparation method of crude drug for market depends on which factor?
    - (a) Climate condition
    - (b) Chemical constituent
    - (c) Cultivation process
    - (d) All above
  - (iv) Extractive value of crude drug is evaluated to determine
    - (a) Phytoconstituents present in crude drug
    - (b) Organic substance present in crude drug
    - (c) Inorganic substance present in crude drug
    - (d) Mucilage present in crude drug
  - (v) Which of the following is type of Column Chromatography
    - (a) HPLC
    - (b) GC
    - (c) Both (a) and (b)
    - (d) HPTLC

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- (vi) Which of the following is the objective of GAP?
- (a) Supply of quality raw material
  - (b) Support conservation of raw materials
  - (c) To improve safety, quality and efficacy of finished product
  - (d) All above
- (vii) Salkowski reaction is used to detect
- (a) Steriod
  - (b) Tannin
  - (c) Carbohydrate
  - (d) Alkaloid
- (viii) Ash value of crude drug is evaluated to determine
- (a) Phytoconstituents present in crude drug
  - (b) Organic substance present in crude drug
  - (c) Inorganic substance present in crude drug
  - (d) Mucilage present in crude drug
- (ix) Which of the following is most commonly used adsorbent in chromatography?
- (a) Silica gel
  - (b) Magnesium sulphate
  - (c) Sodium acetate
  - (d) Potassium Iodate
- (x) Which one of the following is chemical marker?
- (a) Allin
  - (b) Isoenzymes
  - (c) DNA markers
  - (d) None above
- (xi) The topics included under ICH are
- (a) Quality
  - (b) Efficacy
  - (c) Safety
  - (d) All
- (xii) How does the liquid rise through the filter paper?
- (a) By means of capillary action
  - (b) By means of gravitation force
  - (c) Due to absorption mechanism
  - (d) All above
- (xiii) On what factors does the R<sub>f</sub> value of a compound depend?
- (a) Nature of the compound
  - (b) Nature of the solvent
  - (c) Temperature
  - (d) All above
- (xiv) The temperature maintained in super critical fluid extraction is
- (a) 30°C
  - (b) 31.06°C
  - (c) 31.60°C
  - (d) 30.06°C

- (xv) Water is useful solvent for the extraction of following which phytoconstituents
- (a) gum (b) tannin  
(c) volatile oil (d) (a) and (b)
- (xvi) Modern technique of isolation of phyto-constituent is \_\_\_\_\_
- (a) Supercritical fluid extraction  
(b) Ultrasound assisted extraction  
(c) Microwave assisted extraction  
(d) Flash chromatography technique
- (xvii) Which of the following is most polar compared to others?
- (a) Chloroform (b) Water  
(c) Ethyl acetate (d) Pet. ether
- (xviii) Which of the following analytical procedure use to determine molecular weight of compound?
- (a) UV-VIS spectroscopy (b) Mass spectrometry  
(c) NMR spectroscopy (d) Raman spectroscopy
- (xix) Retention factor ( Rf ) in chromatography is used for
- (a) Quantitative purpose (b) Qualitative purpose  
(c) Preparative purpose (d) None of these
- (xx) Crude drugs should be stored at
- (a) Cool place (b) Cool and dry place  
(c) Dry place (d) Warm place

GROUP –B

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

2. (a) Explain the various steps involved for the processing of crude drugs for market.
- (b) Write short note on physical evaluation process of crude drugs.
- (c) Describe the general methods of preparation of plant extracts and their merits and demerits.

GROUP –C

Answer any *seven* of the followings:

(7 × 5 = 35)

3. (a) What is Pharmacovigilance? What are the functions of national pharmacovigilance centres? (2+3)
- (b) Write a note on laboratory safety and hygiene in processing of herbal medicine as per GMP guideline. (5)
- (c) Explain why Stability testing of herbal products is necessary? Write short note on protocol involve for stability testing of herbal medicines. (2+3)
- (d) Write in Details about the possible ways of Adulteration of Herbal Crude drugs. (5)
- (e) Discuss the different spectral methods of standardization of extracts. (5)
- (f) Write short notes on quantitative analysis of herbals preparations by HPLC. (5)
- (g) Briefly discuss the regulatory requirements for the export of herbal drugs. (5)
- (h) Write in details about the Factors affecting the Quality of Herbal Drugs. (5)
- (i) Discuss the role of chemical and biological markers in standardization of herbal products. (5)
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