

BOARD OF DIPLOMA IN PHARMACY EXAMINATIONS

D.Pharm — FIRST YEAR | ER-2020 Regulation

MODEL QUESTION PAPER — SET 1

PHARMACOGNOSY (ER20-13T)

Time: 3 Hours
Reg. No. : _____
Max. Marks: 80

General Instructions: All sections are compulsory. Figures to the right indicate full marks. Draw neat, labelled diagrams / flowcharts wherever necessary. Answers to Section A (Q. 1–20) must be written together as a single unit.

SECTION – A | Multiple Choice Questions

20 × 1 = 20 Marks

Answer ALL questions. Each question carries 1 mark.

Q1. The word 'Pharmacognosy' is derived from the Greek words pharmakon and

- | | |
|--------------|-----------|
| (a) gnosis | (b) genos |
| (c) graphein | (d) logos |

Q2. The biological source of clove is

- | | |
|-------------------------|---------------------------|
| (a) Syzygium aromaticum | (b) Cinnamomum zeylanicum |
| (c) Mentha piperita | (d) Zingiber officinale |

Q3. Senna is used therapeutically as a/an

- | | |
|-----------------|------------------------|
| (a) Astringent | (b) Purgative/laxative |
| (c) Antipyretic | (d) Sedative |

Q4. Which crude drug is a source of morphine?

- | | |
|--------------|------------|
| (a) Opium | (b) Senna |
| (c) Cinchona | (d) Ginger |

Q5. Quinine is obtained from

- | | |
|-------------------|--------------------|
| (a) Cinchona bark | (b) Rauwolfia root |
| (c) Ephedra | (d) Aloe |

Q6. Agar is obtained from

- | | |
|-------------------------|-------------------|
| (a) Red algae (seaweed) | (b) Fungi |
| (c) Bacteria | (d) Higher plants |

Q7. Which is a purely chemical method of drug evaluation?

- | | |
|---------------------------------|-----------------|
| (a) Organoleptic | (b) Microscopic |
| (c) Assay of active constituent | (d) Physical |

Q8. Acacia (gum) is chiefly composed of

- | | |
|--------------|-------------------------------------|
| (a) Proteins | (b) Carbohydrates (polysaccharides) |
| (c) Lipids | (d) Alkaloids |

Q9. Digitalis is used as a

- | | |
|-----------------|---------------|
| (a) Cardiotonic | (b) Purgative |
| (c) Antiseptic | (d) Sedative |

Q10. Which alkaloidal drug is used as an antihypertensive?

- | | |
|---------------|------------|
| (a) Rauwolfia | (b) Senna |
| (c) Clove | (d) Fennel |

Q11. Castor oil is obtained from the seeds of

- | | |
|----------------------|--------------|
| (a) Ricinus communis | (b) Brassica |
| (c) Arachis | (d) Sesamum |

Q12. Which of the following is a volatile oil-containing drug?

- | | |
|----------------|-----------|
| (a) Peppermint | (b) Senna |
| (c) Acacia | (d) Agar |

- Q13.** Adulteration means
 (a) Improving quality (b) Intentional/unintentional substitution lowering quality
 (c) Standardisation (d) Extraction
- Q14.** Ephedrine is obtained from
 (a) Ephedra (b) Digitalis
 (c) Aloe (d) Cinchona
- Q15.** Cinnamon is obtained from the
 (a) Root (b) Dried inner bark
 (c) Leaf (d) Seed
- Q16.** Which classification groups drugs as leaves, barks, roots?
 (a) Chemical (b) Morphological
 (c) Pharmacological (d) Alphabetical
- Q17.** Aloe is used as a
 (a) Purgative (b) Cardiotonic
 (c) Antihypertensive (d) Antitussive
- Q18.** Ginger is used mainly as a/an
 (a) Carminative (b) Purgative
 (c) Sedative (d) Cardiotonic
- Q19.** Tragacanth is used as a/an
 (a) Suspending/emulsifying agent (b) Purgative
 (c) Sedative (d) Antiseptic
- Q20.** The moisture content of a crude drug is estimated by
 (a) Loss on drying (b) Ash value
 (c) Extractive value (d) Foaming index

SECTION – B | Long Answer / Essay Questions

3 × 10 = 30 Marks

Answer any **THREE** of the following. Each question carries 10 marks.

- Q21.** Define Pharmacognosy. Explain its history, present status and scope in relation to modern medicine and the pharmaceutical industry. [10]
- Q22.** Describe the different systems of classification of crude drugs (alphabetical, taxonomical, morphological, chemical and pharmacological) with merits, demerits and examples. [10]
- Q23.** Define adulteration. Explain the types of adulteration and describe the methods of evaluation of crude drugs (organoleptic, microscopic, physical, chemical and biological). [10]
- Q24.** Write about carbohydrate-containing drugs. Describe the biological source, chemical constituents and uses of acacia, tragacanth and agar. [10]
- Q25.** Describe alkaloid-containing drugs with the source, constituents and uses of opium, cinchona and rauwolfia. [10]

SECTION – C | Short Notes

5 × 6 = 30 Marks

Answer any **FIVE** of the following. Each question carries 6 marks.

- Q26.** Definition and scope of pharmacognosy [6]
- Q27.** Morphological classification of drugs [6]
- Q28.** Ash values and extractive values [6]
- Q29.** Senna and aloe (source and uses) [6]
- Q30.** Volatile oils (clove and cinnamon) [6]
- Q31.** Adulteration and its types [6]
- Q32.** Castor oil (source and uses) [6]

— END OF QUESTION PAPER —

BOARD OF DIPLOMA IN PHARMACY EXAMINATIONS

D.Pharm — FIRST YEAR | ER-2020 Regulation

MODEL QUESTION PAPER — SET 2

PHARMACOGNOSY (ER20-13T)

Time: 3 Hours
Reg. No. : _____
Max. Marks: 80

***General Instructions:** All sections are compulsory. Figures to the right indicate full marks. Draw neat, labelled diagrams / flowcharts wherever necessary. Answers to Section A (Q. 1–20) must be written together as a single unit.*

SECTION – A | Multiple Choice Questions

20 × 1 = 20 Marks

*Answer **ALL** questions. Each question carries 1 mark.*

Q1. The biological source of Cinchona is the

- | | |
|----------|----------|
| (a) Bark | (b) Leaf |
| (c) Seed | (d) Root |

Q2. Fennel and coriander are used chiefly as

- | | |
|------------------|-----------------|
| (a) Carminatives | (b) Purgatives |
| (c) Sedatives | (d) Antiseptics |

Q3. Which is a glycoside-containing drug?

- | | |
|----------------|------------|
| (a) Senna | (b) Acacia |
| (c) Castor oil | (d) Ginger |

Q4. Reserpine is an alkaloid obtained from

- | | |
|--------------------------|--------------|
| (a) Rauwolfia serpentina | (b) Cinchona |
| (c) Ephedra | (d) Opium |

Q5. Which evaluation uses microscopic characters of powdered drug?

- | | |
|--------------|-----------------|
| (a) Physical | (b) Microscopic |
| (c) Chemical | (d) Biological |

Q6. Honey is chiefly composed of

- | | |
|--------------|---------------------------------------|
| (a) Proteins | (b) Invert sugar (glucose + fructose) |
| (c) Starch | (d) Lipids |

Q7. Shark liver oil is a rich source of

- | | |
|---------------------|------------------|
| (a) Vitamin A and D | (b) Alkaloids |
| (c) Tannins | (d) Volatile oil |

Q8. Which is a resin-containing drug?

- | | |
|----------------|------------|
| (a) Asafoetida | (b) Acacia |
| (c) Agar | (d) Senna |

Q9. Peppermint oil is obtained from

- | | |
|---------------------|----------------|
| (a) Mentha piperita | (b) Syzygium |
| (c) Cinnamomum | (d) Foeniculum |

Q10. Tannins are chemically

- | | |
|----------------------------|-------------------|
| (a) Polyphenolic compounds | (b) Alkaloids |
| (c) Lipids | (d) Carbohydrates |

Q11. Starch is stored in plants as a

- | | |
|-----------------------------------|------------------|
| (a) Reserve food (polysaccharide) | (b) Volatile oil |
| (c) Alkaloid | (d) Resin |

Q12. Datura contains the alkaloid

- | | |
|--------------------------|---------------|
| (a) Atropine/hyoscyamine | (b) Morphine |
| (c) Quinine | (d) Ephedrine |

Q13. Which drug is a cardiac glycoside source?

- | | |
|---------------|------------|
| (a) Digitalis | (b) Acacia |
| (c) Ginger | (d) Fennel |

Q14. The foreign organic matter test is a part of

- | | |
|-----------------------------|-------------------------|
| (a) Organoleptic evaluation | (b) Physical evaluation |
| (c) Biological assay | (d) Chemical test |

Q15. Coriander is used as a

- | | |
|--------------------------------|---------------|
| (a) Flavouring and carminative | (b) Purgative |
| (c) Cardiotonic | (d) Sedative |

Q16. Which is a fixed oil used as a purgative?

- | | |
|--------------------|--------------------|
| (a) Castor oil | (b) Clove oil |
| (c) Peppermint oil | (d) Turpentine oil |

Q17. Gokhru and Punarnava are used traditionally as

- | | |
|---------------|-----------------|
| (a) Diuretics | (b) Purgatives |
| (c) Sedatives | (d) Antiseptics |

Q18. Which is used as a bulk laxative and pharmaceutical aid?

- | | |
|------------------------|---------------|
| (a) Isabgol (Plantago) | (b) Digitalis |
| (c) Ephedra | (d) Opium |

Q19. Nux vomica contains the alkaloid

- | | |
|----------------|---------------|
| (a) Strychnine | (b) Morphine |
| (c) Quinine | (d) Reserpine |

Q20. Guar gum is used as a/an

- | | |
|---------------------------------|-----------------|
| (a) Thickening/suspending agent | (b) Cardiotonic |
| (c) Antipyretic | (d) Antiseptic |

SECTION – B | Long Answer / Essay Questions

3 × 10 = 30 Marks

Answer any **THREE** of the following. Each question carries 10 marks.

Q21. Explain the cultivation, collection, processing and storage of crude drugs, and discuss the factors influencing their quality. [10]

Q22. Describe glycoside-containing drugs with the biological source, chemical constituents and uses of senna, digitalis and aloe. [10]

Q23. Define evaluation of crude drugs. Describe in detail the physical and chemical methods of evaluation with examples. [10]

Q24. Write about volatile oil-containing drugs. Explain the source, constituents and uses of clove, cinnamon, peppermint and fennel. [10]

Q25. Explain lipid-containing drugs and their pharmaceutical importance, with the source and uses of castor oil and shark liver oil. [10]

SECTION – C | Short Notes

5 × 6 = 30 Marks

Answer any **FIVE** of the following. Each question carries 6 marks.

Q26. Taxonomical / chemical classification of drugs [6]

Q27. Tannin-containing drugs [6]

Q28. Resins (asafoetida and benzoin) [6]

Q29. Honey and its uses [6]

Q30. Nux vomica (source and constituents) [6]

Q31. Foreign organic matter [6]

Q32. Herb–drug interactions (with example) [6]

— END OF QUESTION PAPER —

BOARD OF DIPLOMA IN PHARMACY EXAMINATIONS

D.Pharm — FIRST YEAR | ER-2020 Regulation

MODEL QUESTION PAPER — SET 3

PHARMACOGNOSY (ER20-13T)

Time: 3 Hours
Reg. No. : _____
Max. Marks: 80

General Instructions: All sections are compulsory. Figures to the right indicate full marks. Draw neat, labelled diagrams / flowcharts wherever necessary. Answers to Section A (Q. 1–20) must be written together as a single unit.

SECTION – A | Multiple Choice Questions

20 × 1 = 20 Marks

Answer ALL questions. Each question carries 1 mark.

Q1. Which cell contents are identified during microscopic evaluation?

- | | |
|--|--------------------|
| (a) Starch grains and calcium oxalate crystals | (b) Alkaloids only |
| (c) Resins only | (d) Water |

Q2. Benzoin is a/an

- | | |
|--------------------|------------------|
| (a) Balsamic resin | (b) Alkaloid |
| (c) Carbohydrate | (d) Volatile oil |

Q3. Which drug provides the alkaloid atropine?

- | | |
|-----------------------|------------|
| (a) Belladonna/Datura | (b) Senna |
| (c) Acacia | (d) Fennel |

Q4. The biological source of ginger is the

- | | |
|-------------|----------|
| (a) Rhizome | (b) Leaf |
| (c) Bark | (d) Seed |

Q5. Which is a nutraceutical?

- | | |
|---------------|--------------------|
| (a) Spirulina | (b) Silver nitrate |
| (c) Kaolin | (d) Boric acid |

Q6. Sublimation is used to obtain which crude drug constituent?

- | | |
|-------------------------------|------------|
| (a) Benzoic acid from benzoin | (b) Starch |
| (c) Acacia gum | (d) Agar |

Q7. Which drug is a source of the CNS stimulant caffeine?

- | | |
|------------------|-----------|
| (a) Tea / coffee | (b) Senna |
| (c) Digitalis | (d) Opium |

Q8. Calcium oxalate crystals are a diagnostic feature in

- | | |
|----------------------------|--------------------|
| (a) Microscopic evaluation | (b) Chemical assay |
| (c) Biological assay | (d) Ash value |

Q9. Which is a source of pyrethrum insecticide?

- | | |
|-------------------|--------------|
| (a) Chrysanthemum | (b) Cinchona |
| (c) Aloe | (d) Ginger |

Q10. Isabgol is used as a

- | | |
|-------------------|-----------------|
| (a) Bulk laxative | (b) Cardiotonic |
| (c) Sedative | (d) Antiseptic |

Q11. Which volatile-oil drug is used as a local anaesthetic and antiseptic in dentistry?

- | | |
|------------|---------------|
| (a) Clove | (b) Senna |
| (c) Acacia | (d) Digitalis |

Q12. Which is a chemical test for identifying alkaloids?

- | | |
|------------------------|------------------|
| (a) Dragendorff's test | (b) Molisch test |
| (c) Fehling's test | (d) Biuret test |

- Q13.** Turmeric is used as a/an
 (a) Anti-inflammatory and colouring agent (b) Purgative
 (c) Sedative (d) Cardiotonic
- Q14.** Which is a source of a steroidal drug (diosgenin)?
 (a) Dioscorea (b) Senna
 (c) Agar (d) Fennel
- Q15.** Aloe contains anthraquinone glycosides responsible for its
 (a) Purgative action (b) Cardiotonic action
 (c) Sedative action (d) Antiseptic action
- Q16.** Which is used as a demulcent and pharmaceutical binder?
 (a) Starch (b) Digitalis
 (c) Ephedra (d) Nux vomica
- Q17.** Ashwagandha is used traditionally as a/an
 (a) Adaptogen/tonic (b) Purgative
 (c) Antiseptic (d) Antitussive
- Q18.** Vinca (Catharanthus) is a source of anticancer
 (a) Vinca alkaloids (b) Morphine
 (c) Quinine (d) Ephedrine
- Q19.** Which drug yields a fixed oil rich in essential fatty acids?
 (a) Linseed oil (b) Clove oil
 (c) Peppermint oil (d) Turpentine oil
- Q20.** The Molisch test is used to detect
 (a) Carbohydrates (b) Alkaloids
 (c) Proteins (d) Tannins

SECTION – B | Long Answer / Essay Questions

3 × 10 = 30 Marks

Answer any **THREE** of the following. Each question carries 10 marks.

- Q21.** Describe plant tissues and cell contents of pharmacognostic importance (starch, calcium oxalate crystals, trichomes, stomata) and their diagnostic value. [10]
- Q22.** Explain nutraceuticals. Define the term and describe examples such as spirulina, garlic, ginger and their health benefits. [10]
- Q23.** Describe resin- and volatile oil-containing drugs with the source, constituents and uses of benzoin, asafoetida and clove. [10]
- Q24.** Explain the chemical tests used for the identification of alkaloids, glycosides, tannins and carbohydrates in crude drugs. [10]
- Q25.** Write about herbal formulations and herbal cosmetics — their preparation, uses and labelling requirements. [10]

SECTION – C | Short Notes

5 × 6 = 30 Marks

Answer any **FIVE** of the following. Each question carries 6 marks.

- Q26.** Plant cell contents of diagnostic value [6]
- Q27.** Nutraceuticals (definition and examples) [6]
- Q28.** Chemical tests for glycosides [6]
- Q29.** Turmeric and its uses [6]
- Q30.** Isabgol and guar gum [6]
- Q31.** Field visit to a medicinal garden — purpose [6]
- Q32.** Herbal cosmetics [6]

— END OF QUESTION PAPER —

BOARD OF DIPLOMA IN PHARMACY EXAMINATIONS

D.Pharm — FIRST YEAR | ER-2020 Regulation

MODEL QUESTION PAPER — SET 4

PHARMACOGNOSY (ER20-13T)

Time: 3 Hours
Reg. No. : _____
Max. Marks: 80

General Instructions: All sections are compulsory. Figures to the right indicate full marks. Draw neat, labelled diagrams / flowcharts wherever necessary. Answers to Section A (Q. 1–20) must be written together as a single unit.

SECTION – A | Multiple Choice Questions

20 × 1 = 20 Marks

Answer **ALL** questions. Each question carries 1 mark.

Q1. Which is a diuretic drug of herbal origin?

- | | |
|------------------------|---------------|
| (a) Gokhru / Punarnava | (b) Digitalis |
| (c) Opium | (d) Clove |

Q2. The active constituents of senna are

- | | |
|------------------------------|-------------------|
| (a) Anthraquinone glycosides | (b) Volatile oils |
| (c) Alkaloids | (d) Tannins |

Q3. Which is an example of unorganised crude drug?

- | | |
|-----------------------|--------------------|
| (a) Aloe / gum acacia | (b) Senna leaf |
| (c) Cinchona bark | (d) Ginger rhizome |

Q4. Rauwolfia is used for the management of

- | | |
|------------------|------------------|
| (a) Hypertension | (b) Constipation |
| (c) Cough | (d) Fever |

Q5. The presence of lignified cells is detected using

- | | |
|--------------------------|------------------------|
| (a) Phloroglucinol + HCl | (b) Iodine |
| (c) Ninhydrin | (d) Fehling's solution |

Q6. Which is an organised crude drug?

- | | |
|-------------------|----------------|
| (a) Leaf of senna | (b) Acacia gum |
| (c) Agar | (d) Honey |

Q7. The physical constant used for fixed oils is the

- | | |
|---------------------------------------|--------------------|
| (a) Acid value / saponification value | (b) Ash value |
| (c) Foaming index | (d) Swelling index |

Q8. Which drug is used as an antitussive/expectorant of herbal origin?

- | | |
|-----------------------------|---------------|
| (a) Liquorice (Glycyrrhiza) | (b) Digitalis |
| (c) Nux vomica | (d) Agar |

Q9. Ephedra yields the drug used in

- | | |
|-------------------------------|------------------|
| (a) Asthma/nasal decongestion | (b) Constipation |
| (c) Fever | (d) Hypertension |

Q10. Which reagent gives an orange-brown precipitate with alkaloids?

- | | |
|---------------------------|------------------------|
| (a) Dragendorff's reagent | (b) Millon's reagent |
| (c) Molisch reagent | (d) Benedict's reagent |

Q11. The swelling index is determined for mucilage-containing drugs such as

- | | |
|-------------|--------------|
| (a) Isabgol | (b) Cinchona |
| (c) Clove | (d) Opium |

Q12. Cinnamon bark contains the volatile oil constituent

- | | |
|--------------------|--------------|
| (a) Cinnamaldehyde | (b) Eugenol |
| (c) Menthol | (d) Anethole |

- Q13.** Which is a source of the anti-malarial alkaloid quinine?
 (a) Cinchona (b) Rauwolfia
 (c) Datura (d) Ephedra
- Q14.** The foaming (froth) test indicates the presence of
 (a) Saponins (b) Alkaloids
 (c) Starch (d) Tannins
- Q15.** Which is used as a suspending agent and demulcent?
 (a) Tragacanth (b) Digitalis
 (c) Nux vomica (d) Ephedra
- Q16.** Which anthraquinone-glycoside drug is obtained from dried latex of leaves?
 (a) Aloe (b) Acacia
 (c) Agar (d) Clove
- Q17.** Peppermint oil chiefly contains
 (a) Menthol (b) Eugenol
 (c) Cinnamaldehyde (d) Anethole
- Q18.** Which drug provides cardiac glycosides digoxin and digitoxin?
 (a) Digitalis (b) Senna
 (c) Ginger (d) Fennel
- Q19.** Which is a resin obtained from a plant exudate used as a carminative?
 (a) Asafoetida (b) Acacia
 (c) Agar (d) Starch
- Q20.** Standardisation of herbal drugs ensures
 (a) Identity, purity and quality (b) Only colour
 (c) Only taste (d) Only price

SECTION – B | Long Answer / Essay Questions

3 × 10 = 30 Marks

Answer any **THREE** of the following. Each question carries 10 marks.

- Q21.** Define crude drugs. Classify them as organised and unorganised drugs with examples and explain the significance of each. [10]
- Q22.** Explain the biological source, constituents, chemical tests and uses of glycoside drugs — senna, digitalis and aloe. [10]
- Q23.** Describe the evaluation of crude drugs by determination of ash values, extractive values, moisture content and swelling/foaming index. [10]
- Q24.** Write about alkaloids as a class of phytoconstituents and describe cinchona, rauwolfia and ephedra with their uses. [10]
- Q25.** Explain the sources, constituents and pharmaceutical/therapeutic uses of gums and mucilages (acacia, tragacanth, guar gum, isabgol). [10]

SECTION – C | Short Notes

5 × 6 = 30 Marks

Answer any **FIVE** of the following. Each question carries 6 marks.

- Q26.** Organised and unorganised drugs [6]
- Q27.** Saponification value and acid value [6]
- Q28.** Dragendorff's and Mayer's tests for alkaloids [6]
- Q29.** Ephedra and its uses [6]
- Q30.** Liquorice (source and uses) [6]
- Q31.** Swelling index and foaming index [6]
- Q32.** Standardisation of herbal drugs [6]

— END OF QUESTION PAPER —

BOARD OF DIPLOMA IN PHARMACY EXAMINATIONS

D.Pharm — FIRST YEAR | ER-2020 Regulation

MODEL QUESTION PAPER — SET 5

PHARMACOGNOSY (ER20-13T)

Time: 3 Hours
Reg. No. : _____
Max. Marks: 80

General Instructions: All sections are compulsory. Figures to the right indicate full marks. Draw neat, labelled diagrams / flowcharts wherever necessary. Answers to Section A (Q. 1–20) must be written together as a single unit.

SECTION – A | Multiple Choice Questions

20 × 1 = 20 Marks

Answer **ALL** questions. Each question carries 1 mark.

Q1. Pharmacognosy deals mainly with drugs of

- | | |
|------------------------|---|
| (a) Synthetic origin | (b) Natural (plant, animal, mineral) origin |
| (c) Radioactive origin | (d) Only mineral origin |

Q2. Which is an animal-origin crude drug?

- | | |
|-----------------------------|------------|
| (a) Shark liver oil / honey | (b) Senna |
| (c) Acacia | (d) Ginger |

Q3. The biological source of aloe is the

- | | |
|---------------------------|----------|
| (a) Dried juice of leaves | (b) Bark |
| (c) Root | (d) Seed |

Q4. Which classification arranges drugs according to their therapeutic action?

- | | |
|---------------------|------------------|
| (a) Pharmacological | (b) Alphabetical |
| (c) Morphological | (d) Taxonomical |

Q5. Trichomes and stomata are useful in

- | | |
|--------------------------------|----------------|
| (a) Microscopic identification | (b) Assay |
| (c) Ash value | (d) Solubility |

Q6. Which fixed oil is used as an emollient and vitamin source?

- | | |
|---------------------|--------------------|
| (a) Shark liver oil | (b) Clove oil |
| (c) Peppermint oil | (d) Turpentine oil |

Q7. Opium is obtained from the

- | | |
|---|----------------------|
| (a) Dried latex of unripe capsules of poppy | (b) Bark of cinchona |
| (c) Root of rauwolfia | (d) Leaf of senna |

Q8. Which is a natural insecticide of plant origin?

- | | |
|---------------|---------------|
| (a) Pyrethrum | (b) Digitalis |
| (c) Acacia | (d) Honey |

Q9. Volatile oils are also called

- | | |
|------------------|--------------------|
| (a) Fixed oils | (b) Essential oils |
| (c) Mineral oils | (d) Waxes |

Q10. Which chemical test confirms the presence of starch?

- | | |
|------------------------------|--------------------|
| (a) Iodine test (blue-black) | (b) Molisch test |
| (c) Biuret test | (d) Ninhydrin test |

Q11. Cinchona is chiefly used as a/an

- | | |
|------------------|----------------|
| (a) Antimalarial | (b) Purgative |
| (c) Sedative | (d) Antiseptic |

Q12. The presence of tannins is confirmed by

- | | |
|--------------------------|------------------|
| (a) Ferric chloride test | (b) Molisch test |
| (c) Fehling's test | (d) Biuret test |

- Q13.** Fennel is used as a/an
 (a) Carminative and flavouring agent (b) Cardiotonic
 (c) Antiseptic (d) Sedative
- Q14.** Which is used as a bulk-forming laxative and binder?
 (a) Isabgol (b) Digitalis
 (c) Nux vomica (d) Ephedra
- Q15.** Guggul is used traditionally to reduce
 (a) Blood lipids/cholesterol (b) Blood pressure only
 (c) Fever only (d) Cough only
- Q16.** Which anthraquinone drug produces yellow, watery stools as its action?
 (a) Senna (b) Acacia
 (c) Agar (d) Clove
- Q17.** Agar is used pharmaceutically as a/an
 (a) Bulk laxative and culture medium base (b) Cardiotonic
 (c) Antiseptic (d) Volatile oil
- Q18.** Neem is used traditionally for its
 (a) Antimicrobial/antiseptic properties (b) Cardiotonic action
 (c) Purgative action only (d) Sedative action
- Q19.** Which alkaloidal drug is used to dilate the pupil (mydriatic)?
 (a) Atropine (from belladonna) (b) Quinine
 (c) Reserpine (d) Morphine
- Q20.** Extractive value indicates the amount of constituents extractable in a
 (a) Solvent (b) Buffer
 (c) Gas (d) Wax

SECTION – B | Long Answer / Essay Questions

3 × 10 = 30 Marks

Answer any **THREE** of the following. Each question carries 10 marks.

- Q21.** Explain in detail the sources of crude drugs and the factors (natural and cultural) affecting the cultivation and quality of medicinal plants. [10]
- Q22.** Describe the biological source, chemical constituents, chemical tests and uses of volatile-oil drugs: clove, cinnamon, peppermint and fennel. [10]
- Q23.** Define adulteration and substitution. Explain the different types of adulterants and the evaluation techniques used to detect adulteration in crude drugs. [10]
- Q24.** Write about the pharmaceutical and therapeutic importance of carbohydrate drugs — acacia, tragacanth, agar, starch and honey. [10]
- Q25.** Explain herbal drugs used in day-to-day life (turmeric, ginger, garlic, neem, tulsi) with their uses and significance as nutraceuticals. [10]

SECTION – C | Short Notes

5 × 6 = 30 Marks

Answer any **FIVE** of the following. Each question carries 6 marks.

- Q26.** Pharmacognosy — history and present status [6]
- Q27.** Pharmacological classification of drugs [6]
- Q28.** Chemical tests for tannins and carbohydrates [6]
- Q29.** Opium and its constituents [6]
- Q30.** Shark liver oil and honey [6]
- Q31.** Evaluation by microscopy — cell contents [6]
- Q32.** Marketed herbal formulations and their labelling [6]

— END OF QUESTION PAPER —