I YEAR PHARM D EXAMINATION
MODEL QUESTION PAPER

Subject: HUMAN ANATOMY & PHYSIOLOGY

Instructions:

- Answer all questions
- Draw diagrams wherever necessary.

Time 3 Hrs ***Max Marks 70***

Essay:

1. Outline the parts of digestive system and elaborate the gross anatomy and functioning of each part.
2. Classify the different types of blood cells and write the normal values of each. Give an account on the functions of each type of cells.

(2 x 10 = 20)

Write short notes:

3. Discuss the formation and circulation of lymph
4. Enumerate the different proteins present in blood plasma and explain their functions
5. Enumerate the bones of appendicular skeleton. Write two differences between male and female pelvis
6. Discuss the physiology of muscle contraction
7. Explain in detail the process of spermatogenesis
8. What are the different types of body tissues? Discuss the special characteristics of epithelial tissues
9. Enumerate the differences between sympathetic and parasympathetic nervous system
10. Explain the different phases of menstrual cycle.
11. What is reflex action ? Explain the structures involved in its production
12. Write the role of renin- angiotensin-aldosterone system in BP regulation

(10 x 3 = 30)

Answer briefly:

13. Mention the changes developing in CVS during exercise
14. Discuss the different functions of liver
15. Write briefly on drug use and abuse by athletics
16. Explain the structure of synovial joint
17. Briefly explain mechanism of blood coagulation
18. Where is Paneth cell seen? Mention its functions
19. Define nerve plexus. Name the principal plexuses
20. Give an account on temporary contraceptive devices
21. What are paranasal sinuses? Where are they located? Mention their functions.
22. What do you know about ventricles of brain?

(10 x 2 = 20)

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Subject: PHARMACEUTICS

Instructions:

- Answer all questions
- Write equqtions wherever necessary

Time 3 Hrs ***Max Marks 70***

Essay:

1. Classify dosage forms. Write in detail about solid dosage forms.
2. Discuss the Historical development of the Indian Pharmacopoeia.

(2 x 10 = 20)

Write short notes:

3. Distinguish between lotions and liniments.
4. What are the ideal requirements of a suppository base? Discuss in brief any one suppository base.
5. What are syrups? Explain the preparation of any two types of syrups with examples.
6. Explain the different methods for the preparation of aromatic waters with suitable examples.
7. How will you prepare 250 ml of 40% alcohol from given samples of 80% and 50% alcohols?
8. What is percolation? Explain the steps involved in percolation process.
9. How will you prepare and dispense the following:

Rx

Hyoscine Hydrobromide- 0.6 mg

Fiat pulvis; mitte tales quinque

10. State the method for dispensing “mixture containing indiffusible solids”.
11. Write briefly on absorption ointment bases with suitable examples.
12. What is Physical incompatibility? Explain any two with examples and the methods to correct them.

(10 x 3 = 30)

Answer briefly:

13. a) Give the Latin terms for the following:

    i. Every morning ii. With twice as much

    b) Give the English meaning of the following:

    i. *Semel die* ii. *Tussi urgente*

14. State the types of jellies with suitable examples and their uses.

15. Give the necessary calculations to prepare 1 Litre of 5% Potassium permanganate solution with directions for diluting it to a 1 in 2000 solution.

16. Classify liniments with suitable examples.

17. Explain double maceration in brief.

18. What is an insufflation? What are its merits and demerits?

19. Discuss Herapathite reaction in brief and the method for its correction.

20. State the preparation of an emulsion by any one method.

21. Write on absorbable gelatin sponge.

22. What are Eutectic powders?

(10 x 2 = 20)

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Subject: MEDICINAL BIOCHEMISTRY

Instructions:

- Answer all questions
- Draw diagrams wherever necessary.

Time 3 Hrs ***Max Marks 70***

Essay:

1. Define enzymes. Classify them giving suitable examples for each class. Briefly describe various factors affecting enzyme activity.
2. List various biochemical roles carried out by liver. Outline a method to assess hepatic dysfunction.

(2 x 10 = 20)

Write short notes:

3. Biochemical roles of cyclic nucleotides
4. Isoenzymes as diagnostic tools – Elaborate.
5. What are ketone bodies? How they are formed in body.
6. With a suitable example explain transamination of Amino Acids.
7. What is the role of mRNA in protein synthesis?
8. Make a note on Glucose tolerance test.
9. Importance of SGOT in diagnosis.
10. Applications of RIA
11. Give the normal value of serum creatinine. How it is associated with renal function.
12. Glycogen Storage diseases

(10x3=30)

Answer briefly:

13. Nitrogen Balance
14. Genetic Code
15. Porphyria
16. Proteinuria
17. Co-enzymes
18. Uncouplers of ETC
19. Atherosclerosis
20. Oxidative de-amination
21. Hypokalemia
22. Renal calculi

(10x2=20)

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Subject: PHARMACEUTICAL ORGANIC CHEMISTRY

Instructions:

- Answer all questions
- Draw diagrams wherever necessary.

Time 3 Hrs ***Max Marks 70***

Essay:

1. What are carbonium ions? Discuss their stability. Show how they are useful in explaining the mechanism of electrophilic addition.

2. What are diazonium salts? Which type of compounds undergoes diazotisation reaction? Write important coupling and replacement reactions.

(2 x 10 = 20)

Write short notes:

3. Define Markownikov's Rule. Briefly discuss peroxide effect with an example.
4. What are conjugated dienes ? How are they prepared?
5. Aromatic carboxylic Acids are stronger acids than aliphatic acids. Explain.
6. Explain a method of separating a mixture of amines.
7. Give the reaction and mechanism involved when Acetaldehyde and acetone are mixed in the presence of dilute base.
8. Dwell briefly on conformations existing in ethane with special emphasis on energy barriers.
9. Propose a mechanism for the reaction of acetyl chloride with benzene in the presence of Aluminium Chloride Catalyst.
10. Discuss about Bond dissociation energy.
11. Which type of compounds undergo ozonolysis ? Give the mechanism involved. What is its significance?
12. Elaborate the potential energy changes taking place during the methane – chlorine atom reaction.

(10 x 3 = 30)

Write briefly:

13. Explain briefly about hyperconjugation.
14. What happens when phenol is treated with carbondioxide under high temperature and pressure ?
15. What is energy of activation ? What is its significance in a chemical reaction.
16. Explain about the zero dipole moment of carbon tetrachloride.
17. What is the product formed when formaldehyde is treated with concentrated sodium hydroxide. Name the reaction and give the complete equation
18. Narrate with examples different types of isomerism exhibited in aldehydes and ketones.
19. How do unshared pairs of electrons affect molecular structure.
20. The C-Cl bond length is shorter in $CH_2 = CH - Cl$ when compared to that in $CH_3 - CH_2 - Cl$. Explain?
21. What is a reaction mechanism. Comment on its significance.

22.n –butane when treated with chlorine in presence of sunlight and at 25^0 C yields n – butyl chloride (28%) and sec – butyl chloride (72%). Explain.

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Subject: PHARMACEUTICAL INORGANIC CHEMISTRY

Instructions:

- Answer all questions
- Write equqtions wherever necessary

Time 3 Hrs ***Max Marks 70***

Essay:

1)(a) Classify and explain the different methods of volumetric analysis used in the quality control of pharmaceutical products.

(b) What are the sources of errors in quantitative analysis of pharmaceuticals? How can they be minimized?

2) (a) What are antimicrobials? How are they classified?

(b) Describe the preparation, properties and assay of hydrogen peroxide IP.

(2 x 10 = 20)

Write short notes:

3. Explain the different theories of pH indicators.
4. Storage conditions affect the stability of drugs. Explain with examples.
5. How does the inorganic compound potassium permanganate act medicinally?
6. Give the principle behind in the assay of ferrous sulphate by permanganometry.
7. Write a note on the versatility of EDTA as a complexing agent in titrations.
8. What are the factors to be considered in the washing of precipitates in gravimetry?
9. State the storage requirements of (a) Carbondioxide (b) Oxygen.
10. How can radio activity be measured?
11. Distinguish between systemic and non-systemic antacids. What is the advantage of using combination antacid preparations?
12. With suitable examples explain how dental caries be reduced using inorganic compounds. **(10 x 3 = 30)**

Answer briefly:

13. What are masking and demasking agents?
14. Explain why perchloric acid is used as titrant in non-aqueous acidimetry.
15. Name three essential trace elements.
16. Differentiate between cathartics and laxatives.
17. Write the chemical formula for :
    (a) Kaolin (b) Talc (c) Calamine
18. Differentiate co-precipitation and post-precipitation.
19. Name the indicator used in :
    (a) Mohr's method (b) Volhard's method (c) Fajan's method
20. Write a note on various sodium chloride preparations used as electrolyte replenishers.
21. Name one inorganic compound each used as:
    (a) Astringent (b) Topical antiseptic (c) Antidote
22. Give balanced equation for the reaction between copper sulphate solution and potassium iodide. **(10 x 2 = 20)**

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