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Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination - 23-Nov-2021

Time: Three Hours

Max. Marks: 70 Marks

Pharmaceutical Formulations (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

1. Explain the processing problems of the tablets. Suggest the solution for the same.
- Explain the finished product quality control tests conducted on parenterals.
- Explain the excipients used in the manufacture of parenterals giving their functions and examples.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

1. Explain the steps involved in sugar coating of tablets.
- Explain the method of manufacture of hard gelatin capsule shell.
- How weight variation and disintegration tests are conducted on soft gelatin capsules?
- Write the science of packaging of ophthalmic formulations.
- Explain the factors influencing solubility of drug while preparing liquid dosage forms.
- How is drug permeation enhanced through transdermal route?
- Write the reasons and remedies for capping and lamination.
- Explain the evaluation of suspensions.

SHORT ANSWERS

10 x 2 = 20 Marks

1. How are liquid dosage forms classified? Mention examples for each.
- Granulation is the pre-requisite of tableting. Justify.
- What are the preferred storage conditions for hard gelatin capsules? What will be the result of improper storage conditions?
- What is the rationality in conducting water attack test on only on type II glass containers?
- Why is preservative in general not suitable for ampoules unlike multidose vials?
- Why are ophthalmic preparations sterile like injections?
- How is the problem with foam formation minimised in liquid products?
19. How is long acting possible with parenteral products?
20. In what way iontophoresis is advantageous in drug administration?
21. What properties of the drug are observed in the manufacture of buccal formulations?



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29/03/21 (A).

Rajiv Gandhi University of Health Sciences, Karnataka

III Year Pharm-D Degree Examination - 29-Mar-2021

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL FORMULATIONS (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

Explain in detail the extraction of gelatine and manufacturing of hard gelatin capsule shell.

Explain the various formulation approaches used in developing transdermal drug delivery system. Give their advantages and disadvantages.

Classify granulation techniques. Describe dry granulation method along with the equipment used in the process.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

1. Explain rotary die process for manufacturing of soft gelatin capsules with neat diagram.
2. Describe dissolution test and friability test for tablets.
3. Explain the various factors affecting drug absorption through skin.
4. Explain formulation of oral suspension.
5. Describe the various physiochemical factors to be considered in designing of controlled drug delivery systems.
6. Describe the containers used for parenteral preparations.
7. Explain the evaluation of suspensions.
8. Write a note on creaming and cracking.

SHORT ANSWERS

10 x 2 = 20 Marks

1. Define base adsorption factor with formula.
2. Give two identification tests for type of emulsion.
3. Describe stability testing in parenterals.
4. Polishing of hard gelatin capsules.
5. Give the importance of nasal drug delivery system.
6. What is class 1000 area in parenteral manufacturing?
7. Differentiate between gels and jellies.
8. Difference between flocculated and deflocculated suspension.
9. Give examples for bio-adhesive polymers.
10. What are osmotic pumps?

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year Pharm-D Degree Examination - 15-Dec-2020

Time: Three Hours

Max. Marks: 70 Marks

Pharmaceutical Formulations (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

- Explain the granulation techniques involved in the manufacture of tablets.
- Explain the formulation of parenteral products.
- Describe in detail the production facilities required to be maintained for parenterals.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

- Explain official quality control tests for tablets.
- Write about the types of gelatin and its uses. Describe the manufacture of hard gelatin capsule shell.
- What are the different methods of manufacture of soft gelatin capsules? Explain the working of rotary die machine.
- Explain the factors affecting absorption of drugs through skin.
- Describe in detail the different methods of improving solubilisation of poorly water soluble drugs in liquid orals.
- Give the characteristics of ocular drug delivery systems. Write a note on erodible ocular inserts.
- Describe the steps involved in sugar coating process with suitable examples of ingredients used in each step.
- Describe the formulation of eye ointment.

SHORT ANSWERS

10 x 2 = 20 Marks

- Give four advantages of liquid orals.
- Enumerate the defects of film coating.
- Write the methods of polishing hard gelatin capsules.
- What should be the desirable properties of rubber closures?
- Classify injections as per USP.
- Classify ointment bases with examples.
- What are the methods for filling liquid orals?
- Mention the specific advantages of implants.
- Write the criteria involved in the selection of drugs to be formulated into transdermal drug delivery system.
- What is mucoadhesion? Give two examples of mucoadhesive polymers.

Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination - 13-Jan-2020

Time: Three Hours

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Max. Marks: 70 Marks

Pharmaceutical Formulations (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

- Describe, with examples, the excipients used in the manufacturing of tablets giving their functions.
- Describe in detail the production facilities required to be maintained for parenterals.
- Classify injections as per USP. Describe parenteral suspensions and parenteral emulsions.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

- Enumerate the film defects. Give the reasons and solutions for the same.
- Explain the extraction of gelatin from different sources.
- Explain the method of manufacture of soft gelatin capsules.
- Explain the requirements of ophthalmic preparations.
- Explain the methods of filling of liquid orals in the industry.
- Explain the components of reservoir type transdermal drug delivery system.
- Discuss the tablet compression cycle by multistation rotary press.
- Explain the evaluation of emulsions.

SHORT ANSWERS

10 x 2 = 20 Marks

- Give two examples each for non-sterile semisolids and sterile ophthalmic formulations.
- How is the lower punch responsible for the problem of double impression?
- Enumerate the sizes of hard gelatin capsules in the ascending order of their fill weight.
- List two sources of pyrogens. Suggest two methods of eliminating the pyrogens.
- Enumerate the glass containers used to supply parenterals. Suggest corresponding tests to determine their chemical resistance.
- Explain the syneresis of gel systems.
- Name the instrument/technique used to test any two physical changes in the liquid orals.
- Compared to oral route, decreased dose of the drug is possible through buccal formulations. Justify.
- How is rectal route advantageous to deliver the drugs?
- Enlist the properties of polymers used in implants.

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Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination - JUNE-2019

Time: Three Hours

Max. Marks: 70 Marks

Pharmaceutical Formulations (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

- Explain in detail the formulation of tablets.
- Define and classify injections. Discuss in detail, parenteral suspensions and parenteral emulsions.
- Explain in detail the extraction of gelatin and manufacturing of hard gelatin capsule shell.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

- Give reasons and remedies for defects of film coating.
- With a neat diagram of Rotary die machine, explain the manufacturing of soft gelatin capsules.
- Discuss on nature of the soft gelatin capsule shell.
- With anatomy of skin, explain the factors affecting drug absorption through skin.
- Explain the approaches for enhancing the aqueous solubility of poorly soluble drug.
- Discuss the different approaches of developing transdermal drug delivery systems.
- Describe any two official quality control tests for tablets.
- Describe in vivo methods of testing pyrogens in parenteral products.

SHORT ANSWERS

10 x 2 = 20 Marks

- Define elixirs and linctuses.
- Write disintegration test for enteric coated tablets.
- Define base adsorption with equation.
- Classify with suitable example the vehicles used for parenterals.
- Write LAL test.
- Name four requirements of ophthalmic preparations.
- Enlist the types of ingredients used for suspensions.
- What are ocuserts?
- Give four advantages of transdermal drug delivery systems.
- Define controlled and targeted drug delivery systems.

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Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination - JAN-2019

: Three Hours

Max. Marks: 70 Marks

Pharmaceutical Formulations (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

Classify granulation techniques. Describe wet granulation method along with equipment used.

Describe in detail, the formulation of parenterals.

Write the advantages, disadvantages and various formulation approaches used in developing transdermal drug delivery systems.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

Describe film coating process of tablets.

Explain quality control tests for hard gelatin capsules.

Describe the production of soft gelatin capsules.

Explain evaluation of eye ointment.

Explain the formulation of oral suspensions.

Explain parenteral depot formulation.

Explain the various physico chemical factors to be considered in designing controlled drug delivery systems.

Explain the requirements for the ophthalmic preparations.

SHORT ANSWERS

10 x 2 = 20 Marks

Define ointment and paste.

Differentiate glidants and lubricants.

How is bloom strength measured?

How is leakage test conducted for parenterals.

Write water attack test for glass containers.

Role of viscosity modifiers in ophthalmic formulations.

List the organoleptic additives used in liquid orals.

What is ocusert?

Define first order drug targeting. Give an example.

What is osmotic pump?

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Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

III Year Pharm-D Degree Examination - May 2017

Max. Marks: 70 Marks

PHARMACEUTICAL FORMULATIONS (RS & RS2)

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

1. Describe in detail the manufacturing defects and remedies of tablets.
2. With a layout, explain the facilities required in production of parenterals.
3. Describe in detail the formulation of tablets.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

4. Write in detail the sugar coating process.
5. Write the quality control tests for hard gelatin capsules..
6. Describe the nature of the soft gelatin capsule contents.
7. Write the definition, types and formulation of jellies.
8. Describe the filling methods of liquid orals.
9. Write a brief note on implants.
10. Write a note on components of transdermal patches.
11. Explain the formulation of eye drops.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define dusting powder and dentifrices.
13. Write the significance of granulation in tablet compression.
14. What is bloom strength?
15. Name two methods of sealing ampoules and write about any one method.
16. What do you mean by HEPA and LAF?
17. Classify ointment bases with one example.
18. Classify preservatives with one example.
19. Write on reservoir type devices of transdermal drug delivery systems.
20. Write two advantages and disadvantages of controlled drug delivery systems.
21. What are osmotic pumps?



Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination – DEC 2016

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL FORMULATIONS

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Define and classify tablets. Discuss in detail the excipients used in tablet preparation.
2. Explain the manufacturing of gelatin shell and filling of hard gelatin capsules.
3. Define suppositories. Classify suppository bases with examples. Explain the preparation of suppositories by hot process.

SHORT ESSAYS

6 x 5 = 30 Marks

4. Write a note on formulation of emulsions.
5. Define and classify dosage forms with suitable examples.
6. Explain the sugar coating process.
7. Discuss the plastic as a material to construct parenteral containers.
8. Write a brief note on implants.
9. Explain the nature of the capsule content of soft gelatin capsules.
10. Explain the formulation of parenterals.
11. Discuss on the official tests for tablets.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Write a note on buccal and sublingual tablets.
13. Define buffers and anti-oxidants with examples.
14. Physical properties of a tablet required for coating.
15. Name the types of glasses used in packing of parenterals.
16. List out the defects of film coating.
17. Write about oleogenous ointment bases.
18. What is class 100 and how do you achieve it.
19. What do you mean by slugging?
20. What are directly compressible diluents, give two examples.
21. Write briefly on filtration of parenteral solutions.



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Rajiv Gandhi University of Health Sciences, Karnataka

III Year Pharm-D Degree Examination – May 2016

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL FORMULATIONS

Q.P. CODE: 2866

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Explain in detail sugar coating of tablets including the advantages, disadvantages, composition of coating material used in the process and equipment employed.
2. What are parenteral products? Explain in detail formulation of parenteral product.
3. Discuss the general formulation and filling of liquid orals.

SHORT ESSAYS

6 x 5 = 30 Marks

4. Explain wet granulation process with its merits and demerits.
5. Discuss pyrogen test for parenteral products.
6. Discuss on the evaluation tests for suspensions.
7. Explain the process of manufacturing of hard gelatin shells.
8. What are gels? Describe the formulation of gel.
9. Write a note on official tests for tablets.
10. Write the evaluation tests of suppositories.
11. What are novel drug delivery systems? Write their advantages and disadvantages.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Name two examples for plasticizers and antioxidants
 13. What are class 100 areas in parenteral manufacturing unit?
 14. Bloom strength and its importance
 15. Advantages of liquid orals
 16. Significance of displacement value in suppository formulation
 17. What are Impurities?
 18. Define Capping and lamination
 19. Classify the different types of jellies.
 20. What is CAP and Shellac? Write their uses.
 21. Methods of adjusting isotonicity
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Rajiv Gandhi University of Health Sciences, Karnataka
III Year Pharm-D Degree Examination – DECEMBER 2015

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL FORMULATIONS

Q.P. CODE: 2866

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary



LONG ESSAYS

2 x 10 = 20 Marks

1. Write a note on formulation of capsule shell and give detailed account on formulation of hard gelatin capsule.
2. What is granulation? Explain about various granulation techniques.
3. Define liquid orals. Write the formulation of liquid orals.

SHORT ESSAYS

6 x 5 = 30 Marks

4. What are the importance of tablet coating. List out coating equipments used.
5. Write briefly about penetration enhancers.
6. Describe in detail formulation and manufacture of ophthalmic suspension.
7. Sterility test for injections.
8. Factors affecting drug absorption through the skin
9. Explain filling and packing of liquid orals.
10. Write a note on creaming and cracking.
11. List out advantages and disadvantages of transdermal drug delivery system.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Ideal requirements of tablets.
13. Sterile powders.
14. Differentiate between gels and jellies.
15. List out vehicles used for formulation of parenterals.
16. Ointment bases.
17. Moulded tablets.
18. Ideal requirements for ophthalmic products.
19. Differentiate Type I, Type II and Type III glass containers.
20. Give two examples for tonicity modifiers.
21. Displacement value and its significance
