Practice 31.3.

Hydrocortisone sodium phosphate		50 mg
Benzyl alcohol		9 mg
Sodium citrate		10 mg
Sodium bisulfite		3 mg
Sodium hydroxide		1 mg
Water for injection	q.s.	1 ml

Prepare in 1 ml ampoules.

Questions:

1. Make the isotonic calculation of the solution you prepared.
2. Describe the pharmacological effect of the active substance in the preparation and the intended use of the other substances in the formulation.
3. What is the pH at which hydrocortisone sodium phosphate is stable? At which pH should this solution be prepared?

Practice 32.19.

Boric acid	0.5 g
Glycerine	20 g

Practice 31.4.

Procaine Penicillin Injectable Suspension (300 mg/ml)

Procaine penicillin G		30.00 g
Kollidon 17 PF		0.40 g
Carboxy methylcellulose		0.15 g
Sodium citrate		0.57 g
Cystine		0.2 %
Methyl paraben		0.01%
Water for injection	q.s.	100.00 ml

Prepare in 10 ml vials.

Preparation:

After the procaine penicillin G is brought to the required particle size (5-10 μm), it is mixed with a portion of heated water for injection up to 80 ° C. Kollidon 17 PF and carboxy methylcellulose are mixed separately with some water for injection at 80 ° C and sterilized in autoclave. Methyl paraben and cysteine solutions prepared with water for injection at room temperature are filtered through 0.2 μm or 0.45 μm pore size membrane and mixed in aseptic conditions. The entire mixture is filled to desired volume with sterile water for injection. The sterile ampoules are filled with the mixture under laminar airflow.

Questions:

1. What are the purposes of the substances used in the formulation?

2. Which parenteral route is used for this preparation?

3. Describe the properties that should be present in a parenteral suspension formulation.

Practice 32.18.

Boric acid solution (%4)	10 ml
Diluted hydrogen peroxide solution	10 ml

Practice 31.5.

Procaine - Adrenaline Injection (B.P. 1980)

Procaine hydrochloride		2.0 g
Sodium chloride		q.s.
Clorchresol		0.1 g
Adrenaline solution (1/1000)		2.0 ml
Sodium metabisulfite		0.1 g
Water for injection	q.s.	100.0 ml

Questions:

1. Describe the intended use of the active pharmaceutical ingredient and excipients in the formulation.

2. Calculate the amount of NaCl to be used with isotonicity calculation.

3. Describe how to sterilize this formulation.

4. At what pH should this solution be prepared in terms of the stability of procaine HCl and adrenaline?

Practice 32.3.

Zinc Sulphate Eye Drop

Zinc Sulphate	% 0.25
Thiomersal	% 0.0025
Boric acid	q.s.
pH 6.8 citrate buffer	q.s.

Prepare 10 ml

Preparation:

The tonicity of formulation is calculated by a suitable method. The amount of excipient required to be isotonic is found. The ingredients in the formulation dissolve in a portion of the pH 6.8 citrate buffer. The desired volume is complemented by the remaining solvent. The pH of the prepared solution is checked and filtered through glass filter. The solution is sterilized in the autoclave at 121 ° C for 15 minutes.

Questions:

1. What should the patient take care of when using a multi-dose eye preparation?

2. Describe the intended use of this preparation.

Practice 32.5.

Procaine Hydrochloride Eye Drop

Prepare 30 ml of isotonic procaine hydrochloride solution at concentration of 1.5%.

Practice 32.6.

Gentamicin sulfate	2.0 g
Prokain hydrochloride	0.5 g
Sodium chloride	q.s.
Purified water	100.0 ml

Prepare 10 ml