

OSPE Pharma Module

OSPE

Total= 65

Copy= 5

Viva= 70

Total stations: 8

- ⇒ 6 unobserved (5marks each)
- ⇒ 2 observed
 - 1) Experimental frog (15marks each)
 - 2) Pharmacy (15marks each)

Unobserved stations:

1. Biostatics (Definition and calculations)
2. Prescription writing (Definition and prescription)
3. Dose calculation
4. $T_{1/2}$, Vd, Clearance, Bioavailability
5. Abbreviations
6. General pharmacology

Prescriptions	Pharmacy	Experimental
1. Acute peptic disease	⇒ Practical No.1	⇒ Practical No.4
2. Amoebic	⇒ Practical No.2	⇒ 5
3. Angina	⇒ Practical No.3	⇒ 10
4. Asthma	⇒ Practical No.4	⇒ 11
5. Bacillary dysentery	⇒ Practical No.7	
6. CCF	⇒ Practical No.9	
7. Hypertension	⇒ Practical No.11	
8. Iron deficiency anemia		
9. Malaria		
10. Migraine		
11. Typhoid		

Name: Hadis Saeed

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Difficulty in breathing and coughing

Diagnosis:

Attack of Asthma (acute)

R_x

1) Oxygen

2) Neutralize the patient and Salbutamol 2.5mg diluted in 10 ml N/S

Or

Salbutamol aerosol inhalation 21mg/puff

2puff every four hours

3) Inj. Aminophylline 25mg in 100ml sterile water I/V slowly over 10 minutes

4) Inj. Hydrocortisone 250mg x I/V x STAT

5) Tab. Prednisolone 5mg T.I.D

6) Tab. Augmentin 1g B.I.D

***In chronic attack of asthma**

1) Beclomethasone inhalation 2-4 puffs Q.I.D

2) Salbutamol inhalation 2 puffs B.I.D

Signature

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Name: Ali Hassan

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Diagnosis:

Hypertension

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Investigation:

BP, RET, Lipid profile

R_x

⇒ **Initial treatment:**

→ **For young patients:**

Tab. Atenolol 50mg

→ **For older patients:**

Tab. Triamterene 50mg and Hydrochlorothiazide 25mg Od

⇒ **For resistance:**

→ **2 drug combination:**

Tab. Atenolol 100mg 1xOd

Tab. Triamterene 50mg and Hydrochlorothiazide 25mg 1xOd

Tab. Amlodipine 5mg 1xOd

→ **3 drug combination:**

Tab. Atenolol 100mg 1xOd

Tab. Triamterene 50mg and Hydrochlorothiazide 25mg 1xOd

Tab. Nifedipine 20mg ½ xOD

→ **4drug combination:**

Tab. Atenolol 100mg 1xOd

Tab. Triamterene 50mg and Hydrochlorothiazide 25mg 1xOd

Tab. Captopril 50mg 1xT.I.D

Tab. Prazocin 1mg ½ x Od

Signature

Name: Muhammad Tahir

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Chest pain and shortness of breath

Investigation:

ECG

Diagnosis:

Angina Pectoris

R_x

Tab. Glycerol tri-nitrate 0.5mg

1PO x S/L x STAT

Tab. Clopidogrel 75mg

1PO x STAT

If pain settle in ½ hour and enzymes are negative then discharge the patient

Tab. Atenolol 50mg 1 x h.s x ind

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Signature

Name: Hadis Saeed

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Fatigue, Lethargy, Paleness, Breathlessness

Diagnosis:

Iron deficiency anemia

R_x

Tab. Ferrous sulphate 20mg

T.D.S for 3-6 months

Tab. Ferrous gluconate 200mg

B.D.S for 3-6 months

Or

Injection I/V Dextron 50mg

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Signature

Name: Ali Hassan

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Severe headache

Diagnosis:

Chronic Migraine

R_x

Tab. Propranolol 40mg B.D

Tab. Valproate 40mg B.D

Or

Tab. Verapamil 80-160mg T.D.S

Amitriptyline 80mg h.s

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Signature

Name: Muhammad Tahir

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Abdominal pain, Abdominal cramps, Cyst in stools, Freq. stools

Diagnosis:

Amoebic

R_x

Tab. Metronidazole 400mg 2tab. T.D.S for 5 days

Tab. Diloxanide 500mg 1tab. T.D.S for 5 days

Primary complain:

Abdominal pain, Abdominal cramps, blood mucous in stool, ulcer, fever

Diagnosis:

Amoebic dysentery

R_x

Tab. Metronidazole 400mg 1tab. T.D.S for 10 days

Tab. Diloxanide 500mg 1tab. T.D.S for 10 days

Primary complain:

Abdominal pain, Abdominal cramps

Diagnosis:

Hepatic Amoebic

R_x

Tab. Metronidazole 750mg 1tab. T.D.S for 5 days

Tab. Diloxanide 500mg 1tab. T.D.S for 5 days

Tab. iodoquinol 650mg 1tab. T.D.S for 5 days

Signature

Name: Hadis Saeed

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Dyspnea, Shortness of breath, Fatigue

Diagnosis:

CCF, CHF

R_x

Tab. Furosemide 40mg

1tab. ind

Tab. Captopril 125mg

1tab. B.D

Tab. Digoxin 0.25mg

1tab. ind

***If potassium level is low**

Tab. potassium chloride

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Signature

Name: Ali Hassan

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Primary complain:

Fever, Nausea, abdominal pain

Diagnosis:

Typhoid fever

R_x

Tab. Ciprofloxacin 500mg

2tabs B.I.D for 10-14 days

Or

Cap. Cefixime 400mg

1cap. Od

Tab. Azithromycin 500mg

1tab. Od for 10 days

Cap. Amoxicillin 500mg

1cap. Q.I.D for 14 days

Signature

Name: Muhammad Tahir

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Primary complain:

Fever with chill, Fever with evening rises, nausea, Abdominal pain

Investigation:

Malarial parasite

Diagnosis:

Malaria

R_x

Tab. Panadol T.I.D

Tab. Fanidan T.I.D

Tab. Chloroquine 250mg/500mg T.I.D

*if it is resisted to chloroquine then give

Tab. Arceva 40mg/240mg or 80mg/480mg B.I.D

Signature

Name: Muhammad Tahir

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Fever, Chill, watery diarrhea initially then may evolve to contain blood, Nausea, Vomiting

Diagnosis:

Bacillary dysentery

R_x

Cap. Ampicillin 500mg

1cap. Q.I.D for 7 days

Cap. Tetracycline 500mg

1cap. Q.I.D for 7 days

Signature

Name: Muhammad Tahir

Age: 28

Sex: Male

Address: Lahore

Weight: 75Kg

Primary complain:

Burping, dull pain in stomach, nausea, vomiting, bloating

Diagnosis:

Active peptic Ulcer

R_x

Cap. Omeprazole 20mg

1cap. Before breakfast for 6 weeks

Cap. Amoxicillin 500mg 2cap.

Tab. Metronidazole 400mg 1tab.

Tab. Clarithromycin 50mg

1tab. B.I.D for 10 days

Dr. Taimoor Asghar

M.B.B.S

Chaudhary M. Akram Hospital

Signature

Pharmacy practical No.1

Apparatus:

Dispensing bottle, Measuring glass, Pipette, Cork, A piece of paper

Ingredients: chloroform and water

B.P. Formula (British Pharmacopia)

0.25% v/v chloroform solution=0.25 ml

Distilled water=100 ml

Procedure:

1. Take a dispensing bottle and put 90 ml of tap water in it
2. Make the upper level and then discard it
3. Put 0.25 ml of chloroform with the help of a pipette into a measuring glass
4. Add water up to 100 ml mark
5. Transfer this mixture to the dispensing bottle up to the mark level and discard the rest of aqua
6. Mouth of the dispensing bottle should be closed with a cork so that 2/3 of cork is inside the bottle. The cork and the mouth of the bottle is covered with a cap made up of a piece of paper and then tie it by a thread

Uses:

1. It is used as a flavoring agent in the preparation of medicines
2. As a sweetening agent
3. An a preservative

Pharmacy practical No.2

Apparatus:

Balance, measuring glass, dispensing bottle

Ingredients: Sodium chloride

Procedure:

1. Take 100ml of water in a measuring glass and pour it into a dispensing bottle
2. Mark the level of 100ml in the dispensing bottle Discard the water
3. Weight 900mg of sodium chloride, Dissolve in small quantity of distilled water in a beaker and put it into the dispensing bottle. Add more distilled water upto 100ml mark
4. Infuse the sterilized normal saline at the rate of 33 drops per minute

Uses:

- ⇒ Used in first line treatment of dehydration and shock
- ⇒ To maintain fluid balance as eye drops to wash the injured eye.
- ⇒ A mouth wash

Calculations:

For 100ml of normal saline

Salt required = 0.9gm

For 100ml = 900mg

For 1ml = $\frac{0.9}{100}$

500ml = $\frac{0.9}{100} \times 500$
= 4.5gm

For 100ml of 5% D/w = 5g

For 1ml = $\frac{5}{100}$
 $= \frac{5}{100} \times 500$
= 25g

Pharmacy practical No.3

Apparatus:

Dispensing bottles, scissor, paper, measuring glass

Ingredients:

Syrup zingiberis, Sodium bicarbonate, spirit chloroform, tincture cardamom compound, spirit ammonia aromatic

Procedure:

1. Measure 90 ml of water in measuring glass and transfer it to dispensing bottle. Mark the upper level on the dispensing bottle and discard the water
2. Now take 1800 mg of NaHCO_3 and put it in a dispensing bottle and then add 6 ml of tincture cardamom eo, 6 ml of syrup zingiberis, 1.5 ml of spirit chloroform and 3 ml of spirit ammonia aromatica and now add water in bottle upto 90 ml mark
3. Shake it thoroughly to mix the ingredients
4. Label the bottle and paste the label mark. Now botie is sealed

Directions for use

Take one dose thrice a day after the meals

Uses:

It is used for treatment of

1. Indigestion
2. Dyspepsia
3. Flatulence

Calculations:

Ingredients	Amount for 30ml (One dose)	Amount for 3 doses (90 ml)
⇒ NaHCO_3	⇒ 600 mg	⇒ $600 \times 3 = 1800 \text{ mg}$
⇒ Spirit chloroform	⇒ 0.5 ml	⇒ $0.5 \times 3 = 1.5 \text{ ml}$
⇒ Tincture cardamom	⇒ 2 ml	⇒ $2 \times 3 = 6 \text{ ml}$
⇒ Spirit ammonia aromatic	⇒ 1 ml	⇒ $1 \times 3 = 3 \text{ ml}$
⇒ Syrup zingiberis	⇒ 2 ml	⇒ $2 \times 3 = 6 \text{ ml}$
⇒ Water	⇒ 30 ml	⇒ $30 \times 3 = 90 \text{ ml}$

Pharmacy practical No.4

Apparatus:

Colored bottles, measuring glass, balance, beaker

Ingredients: KMnO_4 , distilled water

Procedure:

1. Preparation of stock solution
2. Take 1 g of KMnO_4 , and transfer it to the beaker. Add water up to 100 ml. This is a stock solution
3. Now take 10 ml of this stock solution and transfer it to the colored bottle
4. Add 90 ml water

Directions for use:

To be diluted 3 times with water to be used as mouth wash

Uses of KMnO_4 lotion:

- ⇒ It is used as antiseptic
- ⇒ It is used as Disinfectant
- ⇒ It is used as Deodorant
- ⇒ It is used as Antifungal
- ⇒ It is also used as stomach wash in the treatment of poisoning

Calculations:

0.1% is equal to 0.1g

So, 1% is equal to 1g

0.1g of KMnO_4 to be dissolved in water to make 100ml of lotion

1g KMnO_4 is added in 100ml of water

*If C_1 is not in statement then the standard value is 1%

$$C_1 = 1\%$$

$$C_2 = 0.1\%$$

$$V_1 = ?$$

$$V_2 = 100\text{ml}$$

$$C_1 V_1 = C_2 V_2$$

$$\begin{aligned} V_1 &= \frac{C_2 V_2}{C_1} \\ &= \frac{0.1 \times 100}{1} \\ &= 10\text{ml} \end{aligned}$$

So, volume required to taken from stock solution = 10ml

We have to prepare 100ml of required solution so water is added = $100 - 10 = 90\text{ml}$

Pharmacy practical No.7

Apparatus:

Balance, measuring glasses, pestle and mortar, dispensing bottle, scissors, paper

Ingredients:

Castor oil, gum acacia, purified water

Procedure:

1. Take dispensing bottle and put 60 ml of water in it. Mark the level on the bottle and discard the water
2. Weigh 2 gm of gum acacia and put it in the mortar. Add 4 ml of water and triturate in one direction. This will form mucilage
3. Now take 8 ml of castor-oil and add it drop by drop. Continue trituration in one direction until a creamy paste is formed. This is the primary emulsion
4. Put some more castor oil and transfer the contents into the dispensing bottle. Add water up to 60 ml mark. Emulsion is prepared now

Uses:

Castor oil emulsion is used as a laxative

Directions for use:

One dose to be taken before going to bed

Calculations:

Ingredients	Amount for 30ml	Amount for 2 doses (60 ml)
⇒ Caster-oil	⇒ 4 ml	⇒ 8 ml
⇒ Gum acacia	⇒ 1 g	⇒ 2g
⇒ Purified water	⇒ Q.s to make 30 ml	⇒ Q.s to make 60 ml

Pharmacy practical No.9

Apparatus:

Balance, paper folder spatula scissors, white paper, thread

Ingredients: aspirin, phenacetin, caffeine

Calculations:

Ingredients	Amount for one sachet	Amount for 4 sachets
⇒ Aspirin	⇒ 250m	⇒ 250 x4=1000 mg
⇒ Phenacetin	⇒ 150 mg	⇒ 150x4=600 mg
⇒ Caffeine	⇒ 30 mg	⇒ 30 x4=120 mg

Procedure:

1. Weigh 1 gram (1000 mg) of aspirin 600 mg phenacetin and 120 mg of caffeine
2. Place them on a tile Mix them thoroughly with the help of spatula.
3. Divide the mixed powder into equal portion
4. Place each portion on separate white paper and fold them with the help of paper folder.
5. These 4 powders are placed in pain in another paper of the same size which is then folded
6. The label is placed on the folded paper containing the 4 powder and secured properly with thread having reef knot.

Directions: One powder to be taken up to 4 times daily as necessary

Uses:

- ⇒ Used as analgesic
- ⇒ Used as antipyretic
- ⇒ Used as anti-inflammatory
- ⇒ Used as anti-rheumatic

Pharmacy practical No.11

Apparatus:

Balance, ointment slab, soft spatula, ointment container,

Ingredients:

Sulphur, soft paraffin

Procedure:

1. Weigh 13.5 gm of soft paraffin and 1.5 gm of sulphur powder.
2. Grind sulphur in mortar with the help of pestle if it is not in a finely powdered form
3. Now place sulphur powder on ointment slab and mix it with small quantity of paraffin and thoroughly mix it by rubbing it with soft spatula until the sulphur is thoroughly distributed
4. Now mix the remaining ointment base with the above concentrated ointment and again mix them until it becomes homogeneous.
5. Transfer it into container and label it

Calculations:

⇒ **To prepare 10gm of sulphur ointment:**

Amount of sulphur in ointment:

100gm mixture contain = 10g sulphur

$$1\text{gm mixture contains} = \frac{10}{100}$$

$$=0.1\text{g}$$

$$10\text{gm mixture contains} = \frac{10}{100} \times 10$$
$$= 1\text{g sulphur}$$

Amount of paraffin in ointment:

100gm mixture contain = 90g paraffin

$$1\text{gm mixture contains} = \frac{90}{100}$$

$$=0.1\text{g}$$

$$10\text{gm mixture contains} = \frac{90}{100} \times 10$$
$$= 9\text{g paraffin}$$

So,

10gm sulphur ointment contain 1g of sulphur and 9g of paraffin.

Uses:

Sulphur ointment is mainly used in scabies"

Directions for use:

Apply on whole body below the neck for three consecutive nights and then take bath on fourth day morning