Workshop on "Community Medicine"

Monday, July 21, 2008

"Workshops on Training of Examiners for OSPE, OSCE & TOACS"

FACILITATORS: Prof. Shaheena Manzoor (IPH, Lahore)
Prof. Mussarat Ramzan (WMC, Wah)
Dr. Syed Hasan Shoaib (RMC, Rawalpindi)

ATTENDANCE SHEET

Sr	Institutions	Name of the Faculty Member	Designation	[redacted]	Signature
1.	Allama Iqbal Medical College, Lahore	DR. NAHEED HUMAYUN SHEIKH	PROFESSOR & HEAD		
2.	Nishtar Medical College, Multan	Khalid Masood.	Associate Professor.		
3.	Punjab Medical College, Faisalabad	Farida Manzoor	Asst. Prof.		
4.	Quaid-e-Azam Medical College, Bahawalpur	IJAZ AHMED SHAH BUKHARI	PROFESSOR.		
5.	Rawalpindi Medical College, Rawalpindi	ABIDA SULTANA	ASSIST. PROFESSOR.		
6.	Services Institute of Medical Sciences, Lahore.	SHAHEENA MANZOOR.	Professor.		
7.	Sheikh Zayed Medical College, Rahim Yar Khan	Dr. Hafiz Muhmad Yar	Associate Prof.		
8.	CMH Lahore Medical College, Lahore.				
9.	Lahore Medical & Dental College, Lahore	Dr. Aftab Anjum	Assoc Prof		
10.	Wah Medical College, Wah Cantt	Dr Mussarat Ramzan	Prof & HOD		
11.	Fatima Memorial Hospital College of Medicine & Dentistry Lahore	Dr. Amanullah Khan	Prof & Head.		
12.	College of Medicine & Dentistry, University of Lahore, Lahore.	IQBAL AKHTAR KHAN	PROFESSOR		
13.	Faisalabad Medical College, Faisalabad	DR ZAHID MASOOD	Associate Professor.		
14.	Independent Medical College, Faisalabad	DR. ABDUL SATTAR	Assistant Professor. I.M.C. FBD		
15.	Sargodha Medical College, Sargodha.	Dr. Mohammad Arif Saeed	Associate Professor		

Format (Practical Examination / OSPE)

MBBS Third Professional Examination

COMMUNITY MEDICINE

Component - I

House Hold Survey: **1.** 10 houses.
2. 05 marks (External)

Component – II

Research
1. Mandatory - Group Work (5-6 students)
10 marks (Internal)
2. Individual viva.

Component – III

Journal
(Internal)

A. Field Visit journal of 10 visits.

Defined Population/Area.
05 Marks (Internal)

B. Journal of Press Cuttings.
10 cuttings
5 marks
Critical appraisal - different topics.

Total 10 marks (Internal)

Component – IV

OSPE - 40 Marks
1. Graph Interpretation.
2. Calculation.
3. Specimen Identification.

Marks for each station 4
Total Stations 10 non-observed / non-interactive (strictly according to TOS provided)
Time allocated 40 minutes (4 minutes at each station)

Component – V

Viva Voce

70 Marks External – 35
Internal – 35

MBBS Third Professional Examination

COMMUNITY MEDICINE

Model Questions of OSPE

Total No. of Stations = 10

Total Marks = 40 (4 Marks for each spot / station)

Time = 40 minutes (4 minutes at one station)

NUTRITION

Q1.

a. **Calculate the BMI**
b. **Give its interpretation.**

Key: a

$$\text{BMI} = \frac{\text{Weight in Kg}}{(\text{Height in meter})^2}$$

INTERPRETATION	BMI
Under weight	< 18.5
Normal range	18.5 – 24.9
Over weight	≥ 25
Pre-obese	25 – 29.9
Obese class I	30 – 34.9
Obese class II	35 – 39.9
Obese class III	≥ 40

Key: b

Interpret BMI on the basis of this scale.

Weighting: **a. 2 b.1**

Reference: **Preventive & Social Medicine (K. Park)**

PUBLIC HEALTH & HEALTH SYSTEM / PHC

Q2. POF hospital, Wah is 600 bedded. On an average 500 beds remain occupied throughout the year; calculate bed occupancy rate of this hospital.

Key: 2

Bed occupancy rate

$$= \frac{500 \times 365}{600 \times 365} \times 100$$

= 83.33%

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

IMMUNOLOGY

Q.3 Vaccines of EPI are placed in the different compartments of the Refrigerator. Check their placement and corrective shuffling may be done, if needed.

Key: 3

Among the vaccines, Polio is the most sensitive to heat, requiring storage at minus 20ºC. Measles and polio vaccines must be stored in the freezer compartment. Vaccines which must be stored in the cold part but never allowed to freeze are typhoid, DPT, Tetanus Toxoid, DT, BCG and diluents.

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

BIOSTATISTICS

Q4.

Anemia Status	Parity status	
	Parity 1	Parity 4
Anemia	14	16
Non Anemia	46	24

The calculated Chi-square value of the given data is 3.17.

a. Calculate the degree of freedom.

b. By referring to the given $\chi 2$ table, interpret the significance of the result.

Key: a

Degree of freedom = (Row -1) x (Column -1)

= (2-1) x (2-1)

=1

Key: b

Since $\chi^2 = 3.17$

$\chi^2 < 3.84$

So P> 0.05

The difference is not significant

Weighting: **a.1** **b.2**

Reference: **Preventive & Social Medicine (K. Park)**

TABLE OF χ^2

Probability (P)

D.F.	.50	.10	.05	.02	.01	.005	.001
1.	0.45	2.71	3.84	5.41	6.64	7.88	10.83
2.	1.39	4.61	5.99	7.82	9.21	10.60	13.82
3.	2.37	6.25	7.82	9.84	11.34	12.64	16.27
4.	3.36	7.78	9.49	11.67	13.28	14.86	18.47
5.	4.35	9.24	11.07	13.39	15.09	16.75	20.51
6.	5.35	10.65	12.59	15.03	16.81	18.55	22.46
7.	6.35	12.02	14.07	16.62	18.48	20.28	24.32
8.	7.34	13.36	15.51	18.17	20.09	21.96	26.13
9.	8.34	14.68	16.92	19.68	21.67	23.59	27.88
10.	9.34	15.99	18.31	21.16	23.21	25.19	29.59

DEMOGRAPHY AND POPULATION CONTROL

Q5. Post insertional advice to the patients.

Key: 5

A patient is sitting to be counseled.

1. It is reversible method
2. Immediate ➔ collapse, syncope(Counsel about symptoms)
3. Late ➔Metrorrhagia, backache, menorrhagia
4. It will not interfere with your marital / sex life
5. You can still become pregnant as it does not give 100% protection
6. It can be lost also.
7. It can perforate the wall of uterus.
8. You can check the IUCD in position by the thread
9. Follow-up
10. Duration
    a. Copper T ➔ 10 years
    b. Multiload ➔ 5 years

Weighting: 3

Reference: Preventive & Social Medicine (K. Park)

REPRODUCTIVE HEALTH

Q6. A woman reports at BHU with edema and blood pressure of 150/95 mm of Hg at the gestational age of 34 weeks.

a. What is this condition called?

b. What are the risks to the baby and to the mother?

Key: a

The condition is called pre-eclampsia.

Key: b

Patient may develop eclampsia. It is also called Toxemia of pregnancy and it is one of the major causes of maternal mortality, 13% of deaths are due to toxemia of pregnancy. Babies are likely to have low birth weight and are prone to mortality.

Weighting: **a.1** **b.2**

Reference: **Preventive & Social Medicine (K. Park)**

COMMUNICABLE DISEASES / REPRODUCTIVE HEALTH / IMMUNOLOGY

Q.7 A pregnant woman is bitten by a rabid dog. Outline the steps of management.

Key: 7

If a woman is bitten by a rabid dog:

- It is advisable to give both active and passive immunization as Rabies vaccine is a killed vaccine and can be given safely during pregnancy.
- Wound toilet with proper antiseptic measures should be done.
- No suturing should be done before 24 hours.

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

COMMUNICABLE DISEASES / NUTRITION / IMMUNOLOGY

Q.8 Mother is Hepatitis B positive, what advice would you give after delivery regarding:

a. The baby's immunization

b. Breast feeding.

Key: a

i. Passive immunization

Hepatitis B immunoglobulin 0.05 to 0.07ml/kg body weight should be given. Two doses should be given 30 days apart.

ii. Active immunization

1st dose of Hepatitis B virus vaccine (1ml) should be given intramuscularly with in 7 days of birth. 2nd and 3rd dose should be given after 1 month and 6 months respectively.

Key: b

Mother can breast feed her baby as immunization has being done.

Weighting: **a.2** **b.1**

Reference: **Preventive & Social Medicine (K. Park)**

FOOD & NUTRITION

Q.9

a. Measure the mid arm circumstance.

b. Interpret the results.

Key: a

Method

Key: b

The interpretation is based on the following:

- Arm circumstance exceeding 13.5cm = Satisfactory nutritional status.
- Between 12.5 and 13.5 = Mild to moderate malnutrition.
- Below 12.5 = Severe malnutrition.

Weighting: **a.1** **b.2**

Reference: **Preventive & Social Medicine (K. Park)**

COMMUNICABLE DISEASES / NUTRITION

Q.10 The mother is tuberculous:

a. **What instructions would you give for breast feeding of the baby?**

b. **What measures should be taken to prevent the baby from acquiring this infection in the immediate post natal period.**

Key: a

Breast feeding recommended.

Key: b

- Baby should be given INH prophylactically
- BCG immunization.
- Mother should observe personal hygiene for protection of tuberculous transmission to baby:
  - Use of mask.
  - Avoid spitting in the room.
  - etc.

Weighting: **a.1** **b.2**

Reference: **Preventive & Social Medicine (K. Park)**

HEALTH EDUCATION

Q.11 Educate a group of people regarding hepatitis B & C.

Key: 11

a. It is called “kala yarqan” in common language.
b. Modes of transmission:
   - Blood transfusion
   - Sharing of needles / syringes / blades
   - Sexual transmission
   - Vertical transmission
c. Health education pertaining to the modes of transmission:
   - Not to share razors / blades / syringes
   - Screenings of blood / blood products before transfusion
   - Remain confined to your marriage partner only and use of condoms.
   - Avoid unnecessary surgical / dental procedures
d. Immunization:
   - Hepatitis B vaccine has been recently included in national EPI campaign. 3 doses of vaccine are given on 6, 10 and 14 weeks after birth, along with DPT vaccine.
   - There is no vaccine against Hepatitis C. All the preventive measure are the same as against hepatitis B. Concept of safe sex is important in control of both types of hepatitis, which include confinement to marriage partners only and use of barrier methods (Condoms).

Weighting: 3

Reference: Preventive & Social Medicine (K. Park)

ENVIRONMENT

Q.12 Calculate the amount of bleaching powder (33% strength) required to disinfect a well having diameter of 1.8m and depth of water 30m.

Key: 12

First method.

$$\text{Volume in liters} = \frac{3.14 \times d^2 \times h}{4} \times 1000$$

$$= \frac{3.14 \times (1.8)^2 \times 30}{4} \times 1000$$

$$= \frac{3.14 \times 3.24 \times 30}{4} \times 1000$$

$$= 76302 \text{ liters}$$

For 1000 liter required amount of bleaching powder = 2.5 gm

$$\text{For 76302 liter required amount of bleaching powder} = \frac{2.5 \times 76302}{1000}$$

$$= 190.755 \text{ gms}$$

$$= 191 \text{ gms}$$

Second method.

Volume in liters = $D^2 \times W \times 800$ (D = diameter in meters
W = depth of water in meter)

$$= (1.8)^2 \times 30 \times 800$$

$$= 3.24 \times 30 \times 800$$

$$= 77760 \text{ liters}$$

For 1000 liter required amount of bleaching powder = 2.5 gm

$$\text{For 77760 liter required amount of bleaching powder} = \frac{2.5 \times 77760}{1000}$$

$$= 194 \text{ gms}$$

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

EPIDEMIOLOGY

Q.13 In a population of 1000, measles immunization coverage is 60%, one child goes out of station and comes back with measles from whom 20 more children get measles. Calculate secondary attack rate of measles.

Key: 13

Total no. of children = 1000

No. of immunized = 600

No. of un-immunized =400

Primary case = 1

Secondary attack rate = 20 / 400 – 1 = 20 / 399 x 100 = 5%

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

SCREENING

Q.14 By referring to the following table, calculate:

- **Sensitivity (1)**
- **Specificity (1)**
- **Positive predictive value (0.5)**

	DISEASE	NO DISEASE	
Test +	9	50	59
Test -	1	940	941
	10	**990**	**1000**

Key: 14

- **Sensitivity = 9/10 x 100 = 90%**
- **Specificity = 940 / 990 x 100 = 95%**
- **PPV = 9/59 x 100 = 15%**

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

DEMOGRAPHY & REPRODUCTIVE HEALTH

Q.15 Statistics of a Maternity Unit include the following:

- **Total numbers of reported live births at this obstetrical unit = 5000.**
- **No of deaths of children < 1 year of age= 80**
- **No of deaths of children below 6 months of age = 70**
- **No of deaths of children below 28 days of age = 60**

Calculate Neonatal Mortality Rate.

Key: 15

60 / 5000 x 1000 = 12 / 1000 live births

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

OCCUPATIONAL HEALTH

Q.16 The person sitting in front of you is a nursing assistant, working in the medical ward of POF hospital, Wah Cantt. On average he gives 10 to 15 injections to the patients per day. How will you educate him to prevent himself from the needle stick injury?

Key: 16

- He must keep in mind the risk of having needle stick injury while giving the injections to the patients.
- He must take particular care during the following stages of giving injections:
  - During tightening the needle on the syringe
  - Pulling out the needle from the ampoule after filling the injection
  - Insertion of the needle into the skin or vein
  - Pulling out of the needle after giving injection
  - During capping of the used needle
- In case of needle stick injury he should report to his senior immediately about the incident.
- Active immunization if not vaccinated.
- Passive & active immunization if needle stick injury results before active immunization. (When handling a hepatitis B+ patient)

Weighting: **3**

Reference: **Preventive & Social Medicine (K. Park)**

Conduct of OSPE

- The Batches for Major viva voce and Practical / OSPE exam will be the same on any particular day and will be 30 students strong each.
- All OSPE Questions will be sent by the Department of Examinations, UHS in sealed confidential envelopes to each center clearly marked for each day of Examination and shall be kept secure in our Regional Safety Lockers at respective centres.
- For any particular day of Examination the same OSPE questions will be sent to each center to maintain uniformity and standardization.
- The sealed confidential envelope containing the OSPE questions for that particular day will be collected from the UHS regional safe locker by both the Internal and External Examiners in the presence of the Principal or his nominee and the Regional Coordinator up to Two hours before the commencement of Examination.
- Each packet of examination material will contain for that particular day the complete set of OSPE questions with keys and instructions for the candidates and the examiners.
- Instruction/ questions for the candidates will be included in the examination material and should be placed on each station.
- The Practical Answer Books for stations will be sent separately to each centre one for each candidate.
- The candidates are to carry the Practical Answer Books from station to station and are to register their responses to each question at these desks separately on the same Practical Answer Sheet in the designated areas.
- Before leaving the Assessment Hall the candidate should deposit the Answer Book either at the “Marking Desk” or with the organizer as per decision of the convener.
- The answer books will be checked by both the Internal and External (5 Questions by the Internal and 5 by the External) and awards will be transferred to the Award Lists.
- Both the Award List and the Answer Books will be sent to the Examination Department on the same day.
- The candidates leaving the OSPE Hall will not mingle with candidates awaiting assessment, who are to be kept under supervision in a separate holding bay.
- Each batch of the candidates while waiting for the OSPE in the waiting area should be briefed about the OSPE process and the layout of the OSPE hall as well as the flow of candidates through the hall. They are not to bring any mobile phones or any other technology that could be used for communication within the premises of the examination centre.
- Any student found having mobile phone or any other electronic medium should be removed from the OSPE examination centre and an Unfair Means Case registered against him/ her.
- All candidates will complete a mandatory “Feedback Proforma” and deposit the same confidentially in the sealed collection boxes provided.

List of Calculations

1. Mortality ratio.
2. Morbidity ratio.
3. Disability ratio.
4. Fertility ratio.
5. Dependency ratio.
6. Bed Occupancy ratio.
7. Secondary attachment rate.
8. Ration.
9. Doubling Time.
10. Growth Rate.
11. Mean, Median, Mode, Standard Deviation, Range.
12. Measures of Dispersion.
13. Sensitivity / Specificity.
14. Negative Predictive Value.
15. R.R.
16. Att. Risk.
17. Odds Ratio.
18. Incidence / Prevalence.
19. Chi-Square (p Value).
20. BMI.
21. Calculation of Caloric Value.
22. B. demographic equation.
23. Doubling Time of Population.
24. Quality of H_2O in well.
25. Chlorine Demand.

List of Models

1. Sand fly.
2. Lifecycle of flea.
3. Lifecycle of House Fly.
4. Lifecycle of Mosquito.
5. Diphtheria open mouth.
6. Measles.
7. Iodine deficiency goiter.
8. Kwashiorkor.
9. Chicken pox.
10. Mumps.
11. Healthfull house.
12. Various desk (plus).
13. Various desk (minus).
14. Various desk (zero).
15. Various desk (Normal).
16. Mite.
17. Tetanus (model).
18. Leprosy.
19. Tick.
20. Septic Tank.
21. Hydatid cyst.
22. Worms.
23. AIDS.

List of Oils

All oils.

List of Antiseptics and Chemicals

1. Dettol liquid.
2. Dettol soap.
3. Pyodine.
4. Sulpher.
5. Phenyl tablet.
6. Bleaching powder.
7. Formalin.

List of Pulses, Rice and Salts

1. Pulses.
2. Beans.
3. Corns.
4. Wheat.
5. Rice.
6. Iodized Salt.

Miscellaneous

1. Stop watch.
2. Snake.
3. Anti Snake kit.
4. All vaccines.
5. All contraceptives.
6. O.R.S.
7. Cigarette.
8. Syringes.
9. Huka / Shisha.
10. Anti TB drugs.
11. Anti Malarial drugs.
12. Deworming medication.
13. Iron dust.
14. Cotton fibers.
15. Coal.
16. Skimmed milk.
17. Population pyramid.
18. X-Ray (TB).

MBBS Third Professional Examination

COMMUNITY MEDICINE

TOS for OSPE

TOTAL SPOTS / STATIONS: 10
TOTAL MARKS: 40 (4 MARKS / STATION)
TOTAL DURATION: 40 MINS (4 MINS AT A STATION)

S.#	Topics	C1 (30%)	C2 (30%)	C3 (40%)	Weighting	% of items per Content
1	Concept of health and disease, Natural history of disease and levels of prevention, Control, Elimination and eradication 1a. General epidemiology and research methodology, Dynamics of infectious disease transmission. 1a. Epidemiology, control and prevention of Communicable and non communicable diseases. Screening	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
2	Introduction to public health and health system Primary heath care, Health system in Pakistan.	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
3	Immunology / Vaccination	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
4	Biostatistics/HMIS	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
5	Food & Nutrition	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
6	Environment (Air, water , radiation, climate, noise, housing, waste disposal)	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
7	MCH / Reproductive health	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
8	Health education / Dental health / School health / Mental health / Behavioral sciences / Counseling	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
9	Accidents /Disasters / Occupational health / Parasitology / Entomology / Snake bite	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%
10	Demography and population control	✓	✓	✓	1 Spot	1 Spot = 4 Marks 10%

University of Health Sciences, Lahore

MBBS Third Professional

Annual / Supplementary Examination, 200_____

OSPE Award List for Community Medicine

College: _____ **Centre: _____**

Roll No.	Non Observed Station (Max Marks 40)											House hold survey (Max Marks 5)	Major Viva (Max Marks 35)	Grand Total	
	1	2	3	4	5	6	7	8	9	10	Total			Figure	Words

Examiners: External _____

University of Health Sciences, Lahore

Third Professional MBBS

Annual / Supplementary Examination, 200____

OSPE Award List for Community Medicine

College: _____ **Centre: _____**

Roll No.	Non Observed Station (Max Marks 40)											Research (Max Marks 10)	Journal (Max Marks 10)	Major Viva (Max Marks 35)	Grand Total	
	1	2	3	4	5	6	7	8	9	10	Total				Figure	Words

Examiners: Internal _____