Q.1 What are health sector reforms? What are the components of health sector reforms?

Q.2 Regarding epidemiological studies write notes on:

   a) Interaction
   b) Effect modification
   c) Measures to control confounding

Q.3 With respect to research studies, what are the required elements in an informed consent form?

Q.4 The board of management (BOM) wants to implement Quality Assurance (QA) mechanism in the hospital. Prepare a report for the BOM highlighting:

   a) The factors that are influencing the introduction of QA process.
   b) Steps required for implementation of QA process.

Q.5 a) You are appointed to a prominent health leader position in your country, what competencies would you like to see in yourself as public health leader?
   b) What do you understand by transactional versus transformational leadership?
   c) The leadership practices inventory measures leadership ability on five dimensions. Enlist these five dimensions.

Q.6 In the development of health services in Pakistan, the major problem continuously encountered is the provision and distribution of adequately trained manpower. List the problems in manpower planning and enumerate various factors which control the supply of manpower.
Q.7  a) What is meant by stewardship in health system?
    b) List any two weaknesses of the health governance in Pakistan.

Q.8   A father and mother were living with their nine children in a village. Parents
    got natural measles in their childhood. Their three children also suffered
    from this disease in last 5 years. Their one child suffered from acute
    measles ten days ago. An epidemiologist went to their home today and
    found four new active cases of severe acute measles among their children.

    a) Calculate Secondary attack rate of measles for this family.
    b) Give at least three epidemiological disadvantages of using secondary
        attack rate.
    c) What are three epidemiological benefits of using secondary attack rate?

Q.9   In a certain country, the populations from birth to 14 years is 10% and from
    65 years to onwards 30%. These 40% are not earning at all as compared
    to remaining 60% who are working.

    a) Calculate societal dependency ratio of this country?
    b) If societal dependency ratio is increased to double than current value
        then what is your inference?
    c) What is the epidemiological limitation of societal dependency ratio?

Q.10  a) Differentiate between the terms fertility and fecundity.
    b) Identify the proximate determinants of fertility in Pakistan.
    c) What are the effects of high fertility on development in Pakistan?
Q.11  a) The weights of a random sample of 11, three year old children were taken. Sample mean was 16 kg and standard deviation was 2 kg.
   - Find standard error (S.E)
   - Find confidence interval (C.I) 95%

b) The researcher wants to explore the relationship between height and skeletal maturity.

   ![Graph]

   - What does this graph depict? Give the equation and what do you understand by a, b, X, and Y?

Q.12  In Pakistan, the health sector is facing a dilemma of scarce finances.

   a) What different means can be used for financing health care service delivery?
   b) As an expert, give comments on health insurance.

Q.13  Suppose the chest circumference of newborn female babies is normally distributed with a mean of 35 cm and SD of 2 cm. A sample of 50 baby girls from a remote area of Khyber agency is found to have a chest circumference of 32.5 cm.

   Is the chest circumference of these babies less than the whole population? Test at significance level = 0.05.

   Is this a one-sided or two-sided test?

   FOLLOW ALL THE STEPS OF HYPOTHESIS TESTING. Rejection region is 1.645 (show all your steps and rough work).
Q.14 a) For a person wounded in a road side accident with loss of foot, apply the following terms in order of occurrence:
   - Disease – Handicap – Disability – Impairment
b) Write down preventive measures for accidents.

Q.15 As a public health physician, if you are asked to create and execute a strategic plan of your organization.
   a) How would you define complete strategic planning process?
   b) Why do you think that strategic planning is important?
   c) What are the characteristics of good strategic planning?
   d) Provide steps of a common model of strategic planning that the entire organization can follow.

Q.16 There are large industrial towns on the outskirts of Karachi where abundant toxic gases are released into the atmosphere. These gases are returned to the earth in the form of smog and acid rain. The hazardous effects of these pollutants are appearing on the whole city in general and specifically in these areas.
   a) Give an account of their mechanism of formation?
   b) Enumerate their hazardous effects

Q.17 A lead battery factory at Karachi is mixing its waste disposal water to a nearby canal from where people are using water for drinking purpose. Factory owner claim that there is lead in water but that is below adverse effect level.
   a) What do you mean by Tolerable Daily Intake (TDI), No Observed Adverse Effect Level (NOAEL) and Lowest Observed Adverse Effect Level (LOAEL) of Lead?
   b) What is Polluter Pay Principle (PPP) and its benefit?
   c) What are effects of chronic lead poisoning on a person, drinking water containing Organic lead?
Q.18  
a) What is genetic counselling?
b) What are the steps in genetic counselling?
c) What are the tools for prevention of a genetic disease like thalassemia?
d) Which tool is more effective?

Q.19  
a) What are the known risk factors for cancer cervix?
b) How does screening help in addressing this problem?
c) At what age screening for cervical cancer should be done in Pakistan?

Q.20  Floods are natural disaster which occurs regularly in Pakistan followed by large scale morbidity, mortality and economic loss. The visible reason for this is the lack of pre-disaster management. What pre-disaster efforts should be done to minimize the damage due to floods?

The End