



AMREF INTERNATIONAL TRAINING CENTRE

Qualification Code : 091906T4HRI
Qualification : Health Records Management and IT Level 6
Unit Code : HE/OS/HR/CR/01/6/A
Unit of Competency : Medical Statistics 1

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATE

1. In this assessment, you will be required to answer **written** questions.
2. You have **3 hours** to answer all the questions.
3. Marks for each question are indicated in the brackets.
4. The paper consists of **TWO** sections: A and B, in section A answer all questions while in section B answer three questions only
5. Candidates should answer the questions in English

This paper consists of FOUR printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated

SECTION ONE (A) :40 MARKS

Answer All Questions in This Section

1. Medical statistics play a big role in management of hospital operations. Explain some of the five reasons why hospital administrator/manager needs medical statistics (4marks)
2. Medical statistics depends on information gathering, explain four vital data collected in the hospital during patient visits (4marks)
3. Mbagathi hospital is made up of 600 bed count, in a certain month they happened to get a total of 362 patients in the ward. If in the same month they discharged up to 40% of the total beds occupied, calculate
 - (a) Bed occupancy rate after total discharges given that total admissions after discharges was 80% of the total discharges (4marks)
 - (b) Find the average length of stay given that all the discharges done were admissions as at 15TH June to 25th July, 2020 (5marks)
4. Pumwani hospital is made up of five wards, each ward has a capacity of up to 60 beds, in a certain month they had bed occupancy of 38 patients per ward. If they discharged 73% of the patients in the ward that month, calculate bed turnover rate for the same month (4marks)
5. Mathare hospital performs 30 surgeries in a week. In the month of July, they managed to perform surgical procedures at a constant rate. Given that 43 patients developed post-operative sepsis, calculate the rate of post-operative infections given that 98% of the total patients who did surgery were discharges for the month (4marks)
6. The ratio of male to female babies born at Mbagathi is as follows, 4:3 per week. In a certain week they managed to deliver a total of 120 babies. Calculate babies born as per a specific gender (4marks)
7. In a certain hospital the number of deliveries per day on estimate is 83 babies. In a certain day 93 mothers were admitted in labor ward. On that day, the total number of mothers who gave birth was 10% less than the total number of mothers in labor ward. During discharge 93% of the mothers who delivered were discharged home with their babies

while the rest had been recorded as mortalities. Calculate the new born mortality rate given that both babies were born a live (3marks)

8. In a certain month the total number of bed count was 180, after some time of the month they recorded some admission after having had an inpatient of 86% of bed count. If the total number of admissions in the hospital was 10% of the total patients in the ward that month, calculate average daily census (4marks)
9. In a certain hospital, number of deliveries were 130 in a week. If in the same week they had 2 fatalities for the new born and 120 babies being discharged home. Calculate the fetal death rate for that week (2marks)
10. In a certain hospital total discharges were 60 and of these patients 10 had acquired infections during their stay in the hospital. Calculate the infection rate in this hospital if mortalities were 2 patients (2marks)

SECTION TWO (B): 40 MARKS
Answer Three Questions in This Section

11. Patients who came in the hospital were in following age group.

Age group	f
0-15	8
16- 25	11
26-35	3
36-45	6
46-55	18
56-65	25
66-75	13

- a) Calculate the mean age group (5marks)
- b) Calculate the variance (10marks)
- c) Calculate the standard deviation (5marks)

12. Below are the morbidities recorded in a certain hospital

Morbidities cases	Range of values	frequency
Asthma	0-15	5
Pneumonia	16-35	22
Pulmonary TB	36-55	8
STI	56-75	6
Amoeba	76-95	11
URTI	96-115	27

- a) Calculate the total number of morbidities in this hospital as per the cases in the table above (2marks)
- b) On average what were the morbidity cases in that month of the year in the hospital (6marks)
- c) calculate the variance on morbidities for that months in that hospital (10marks)
- d) calculate standard mean deviation for the same (2marks)
13. Kakamega referral hospital on average has got a bed capacity of up to 200 beds. In a certain month, the bed occupancy was at 95% of the bed capacity and 6 mortalities were recorded after every two weeks. Given that patient who was discharged that month was totaling up to 70% of the total beds occupied. Calculate;
- a) Bed occupancy (3marks)
- b) Total discharges for that month without mortalities (3marks)
- c) Calculate mortality rates (4marks)
- d) Bed turnover rate for that month explaining the impact of that rate in relation to cost and revenue (10marks)