DEPARTMENT OF PUBLIC HEALTH,
FACULTY OF HEALTH SCIENCES,
NATIONAL OPEN UNIVERSITY OF NIGERIA, ABUJA
2024 1 EXAMINATION

PROGRAMME: BSc. PUBLIC HEALTH
COURSE CODE: PHS507
COURSE TITLE: OUTREACH AND MOBILE HEALTH
CREDIT UNITS: 2 CREDITS
TIME ALLOWED: 2 HOURS
ATTEMPT ALL QUESTIONS
SCORE = 70 MARKS

QUESTION 1

Due to cultural influences and high level of illiteracy in our rural communities, Behavioural Change is one of the key targets in Basic Health Service Scheme. How can you use outreach and mobile Health Services to achieve this? **(25 marks)**

QUESTION 2

Describes the methods of evaluation of an executed outreach and mobile health services in a locality **(25 marks)**

QUESTION 3

Discuss the resources involved in execution of an outreach and mobile health services in a rural setting **(20 marks)**

(b) Explain what is responsible for the special stability associated with complexes containing chelate ring (9 marks)

(c) What is responsible for the magnetic moment of each electron ? (2 marks)

(d) Give three (3) examples of pairs of isomers that exhibit coordination isomerism (6 marks)

(e) Mention one example of compound that can exhibit $\pi - \pi *$ *transition* (1 *mark*)

20 MARKS

QUESTION 3

(a)State the major difference between electronic (Uv-VIS) spectroscopy and vibrational spectroscopy in the study of complexes (3 marks)

(b) In an experiment that the aqueous substitution reaction of Ni (II) with Ammonia was studied at 300K using P^H measurement. The stepwise formation constants for the various steps in the reactions are $K_1 = 10^{2.79}$, $K_2 = 10^{2.26}$, $K_3 = 10^{1.69}$; $K_4 = 10^{1.25}$; $K_5 = 10^{0.74}$; $K_6 = 10^{0.03}$

Calculate the overall formation constant **(4 marks)**

(c) In the formation of complexes, highlight four (4)major features that can be used to identify a paramagnetic compound(**8 marks)**

(d) Mention five(5) complexes that are used in medicine **(5 marks)**

20 MARKS

QUESTION 4.

(a) Identify the range that we have far – infrared region in the spectrum(2 marks)

(b) Mention two(2) types of stretching modes in infrared spectroscopy (2 marks)

(c) Given an experimental data involving the substitution reaction of aqueous of copper (II) ion with ammonia that was studied at 310K using P^H measurement. The formation constant was $= 10^{8.7655}$, Calculate the free energy (ΔG). **(5 marks)** [R = 8.314J/K.mol]

(d) State three (3) fundamental properties of non -electrolyte complexes **(6 marks)**

(e) Mention three (3) examples of complex that exhibit ionization isomerism.(3 marks)

(f) State one(1) example of an electrolyte complex(2 marks)

20 MARKS

QUESTION 5

(a) State four (4) types of bending modes in infrared spectroscopy (4 marks)

(b) What brings about magnetic field in an atom (2 marks)

(c) When the complex formation involving the aqueous substitution reaction of Iron (II) with Ammonia was studied at 325K using P^H measurement. The enthalpy change of the reaction was