

061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/08/6/A

Understand Artificial Intelligence Concepts

March/April 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICAL ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATE:

1. You are required to perform the following tasks
 - i. *Develop a Net-Salary calculator.*
 - ii. *Create disease diagnosis program.*
2. You have been provided with the following resources for the practical tasks:
 - *Functional computer installed with appropriate Python IDE/Compiler*
 - *Plain paper*

Task 1: Develop a Net-Salary calculator.

A newly established company known as Dallas Company Ltd has employed you to develop a sub-system using python programming language that will be used to compute net pay of employees. The system should be able to capture; payroll number, name, gender, department and basic salary of an employee. All employees should be awarded a uniform house allowance of ksh.6,500 and a medical allowance of Ksh.5,500. Each employee is deducted P.A.Y.E, N.H.I.F (2% of gross pay) and N.S.S.F (3% of gross salary) remitted to the government. The system should calculate the gross pay, P.A.Y.E, N.H.I.F, N.S.S.F, total deductions and the net pay.

Hint: Gross pay= Basic Salary + Allowances

Net Pay=Gross – Total deductions

P.A.Y.E is calculated based on the criteria in the table below;

Gross Pay(ksh)	P.A.Y. E
>49,000	6% of gross pay
31,000-39,000	5%of gross pay
20,000-30,000	4%of gross pay
0-19,000	0

Implement the following activities.

- i. Capture employee details: *payroll number, name, gender, department and basic salary*
- ii. Calculate the gross pay
- iii. Calculate the P.A.Y.E based on the gross pay.
- iv. Calculate the N.H.I.F, N.S.S.F and Total deductions
- v. Compute the Net Pay
- vi. Display all the employee details alongside their Gross pay, NHIF,NSSF, and Net Pay in this format given below:

Name of employee: John Doe **Payroll No:** 1234 **Gender:** F **Department:** ICT

Basic Pay:

NHIF:

NSSF:

Total Deductions:

NET PAY:

Task 2: Create a Disease Diagnosis Program.

You are required by Jeshi Hospital to build a prototype in Python language that will allow a user to input patient's name, gender, age, and place of residence. The system should then allow the user to provide at most two symptoms of the disease he/she is suffering from, which will be validated using the following criteria:

Possible symptom combinations	Possible diagnosed Disease
Vomiting and diarrhea	Typhoid
Vomiting and fever	Malaria
Chest pain and wheezing sound	Pneumonia
Frequent urination and fluctuations of sugar levels	Diabetes

Based on the symptoms provided, the system should give a proper diagnosis.

Perform the following activities;

- i. Display the message "Welcome to Jeshi Hospital"
- ii. Capture the patients name, gender, age and place of residence
- iii. Capture at most two symptoms: Symptom 1, Symptom 2
- iv. Use the entered symptoms to determine the possible diagnosis
- v. Display a suitable message alongside the symptoms and diagnosis
- vi. Format your output as shown

WELCOME TO JESHI HOSPITAL!

Enter your Personal Details:

Name:

Gender:

Age:

Place of Residence:

Enter your Symptoms:

Symptom 1:

Symptom 2:

Based on the symptoms, you could be suffering from

Visit us for medication!

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