



GRE TSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS JANUARY – APRIL 2025 SEMESTER

DIPLOMA IN COMPUTER SCIENCE

COURSE CODE: DPIT 031

COURSE TITLE: SOFTWARE ENGINEERING METHODOLOGIES

DATE:

TIME:

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY**.
2. SECTION B: ANSWER ANY OTHER **THREE** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

CAUTION: All exam rooms are under CCTV surveillance during the examination period.

NOTE : QUESTION ONE - 30MARKS

: SECTION B-Each question should be out of 20marks

SECTION A: COMPULSORY

QUESTION ONE [40MARKS]

- a) Define the following terms
 - i. Software [3 Marks]
 - ii. Software product [3 Marks]
 - iii. Engineering [3 Marks]
 - iv. Software engineering [3 Marks]
- b) Explain the following categories of software according to Lehman
 - i. S-type [3 Marks]
 - ii. P-type [3 Marks]
 - iii. E-type [3 Marks]
- c) Give any four advantages of waterfall model of software development [4 Marks]
- d) Explain the ideal application areas of the spiral model of software development [5 Marks]

SECTION B: ANSWER ANY OTHER THREE QUESTIONS

QUESTION TWO [20MARKS]

- a) Discuss any four engineering activities [12 Marks]
- b) Explain four characteristics of a good software design [8 Marks]

QUESTION THREE [20MARKS]

- a) Give any four characteristics of a good software [4 Marks]
- b) Discuss the following software paradigms
 - i. Software development paradigm [6 Marks]
 - ii. Software design paradigm [5 Marks]

iii. Programming paradigm

[5 Marks]

QUESTION FOUR [20 MARKS]

- a) Explain the software requirements engineering [4 Marks]
- b) Discuss any four application areas of Prototyping model [8 Marks]
- c) Discuss the big bang model of SDLC [8 Marks]

QUESTION FIVE [20 MARKS]

- a) Distinguish between system requirements and User requirements [6 Marks]
- b) During software validation, highlight any four things that the software is checked about [8 Marks]
- c) Describe any three ways you can use to collect software requirements [6 Marks]