

NTK/KW/15/7444

Faculty of Engineering and Technology

Fifth Semester B.E. (Information Technology)

(C.B.S.) Examination

SOFTWARE ENGINEERING

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

(1) All questions carry marks as indicated.

(2) Due credit will be given to neatness and adequate dimensions.

(3) Assume suitable data wherever necessary.

(4) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) "Software Engineering a layered technology."
Comment. 4

(b) Define Software Engineering. Also mention different types of Software myths. 4

(c) Explain Software and hardware characteristics in detail. 6

OR

9. (a) What do you mean by cyclomatic complexity ?
How cyclomatic complexity is useful in basis
path testing ? Explain with example. 8

(b) Illustrate validation testing. 5

OR

10. (a) What is Black-box testing ? Explain one method
of black-box testing in detail. 7

(b) Illustrate system testing. 6

11. (a) Define Software Risk. List various types of risk and
explain it. 7

(b) Write short note on Software Engineering. 6

OR

12. Write short notes on any **two** : 13

(i) SCM Process

(ii) SQA

(iii) McCalls, S/W Quality Factors

(iv) RMMM plan.

2. (a) What do you mean by Agile process method ?
Explain in brief. 7

(b) Elaborate spiral model for Software Engineering.
Explain how it combines the features of waterfall
model and prototyping model. 7

3. (a) Explain the function point metrics from the given
data, calculate F_p value for a project :

No. of user i/p : 25

No. of user o/p : 35

No. of user inquiries : 20

No. of files : 08

No. of external interfaces : 05

Assume that all complexity adjustment values are
4, 6, 8, 12, 10, 8 respectively. Assume that 16
algorithms have been counted. Compute the
function point value for the same condition
if $\sum F_i = 42$. 7

(b) Write a note on COCOMO—II Model. 6

OR

4. (a) What do you mean by decomposition technique ?
Explain in brief. 7

(b) Define make-buy decision. Explain in brief with
example. 6

5. (a) What is Requirement Engineering ? Explain
the various tasks performed in requirement
engineering. 7

(b) List various elements of analysis model ? Explain
each element. 6

OR

6. (a) What are the contents of computer based system ?
Explain. 7

(b) Highlight the concepts used in modeling the system
architecture. 6

7. (a) Explain the concept of cohesion and coupling in
detail with example. 7

(b) Narrate design heuristics for effective modularity.
7

OR

8. Write a note on any **two** :

(i) Software design fundamentals

(ii) Design principles suggested by Davis

(iii) Hatley and Pirbhai extension

(iv) Ward and Mellor extension. 14