

This question paper contains 3 printed pages.

B.C.A. (Sem. - III)

002233

Roll No. 5802311

UG0801

BCA-63T-205

B.C.A. Three/Four Year (Semester - III)
EXAMINATION - Dec. 2025 (Held in Feb. 2026)

(Faculty of Science)

Subject - BCA

Software Engineering

Time Allowed: Three Hours

Maximum Marks: 120

No supplementary answer book will be given to any candidate. The candidates should write the answers precisely in the main answer book only.

किसी भी परीक्षार्थी को पूरक उत्तर-पुस्तिका नहीं दी जाएगी। परीक्षार्थियों को समस्त प्रश्नों के उत्तर मुख्य उत्तर पुस्तिका में ही लिखने चाहिए।

Answers to short answer-type questions must be given in sequential order. Similarly, all the parts of one question of descriptive part should be answered in one place in the answer-book.

लघुत्तरात्मक प्रश्नों के उत्तर प्रश्नों के क्रमानुसार ही दें। इसी प्रकार किसी भी एक वर्णनात्मक प्रश्न के अन्तर्गत पूछे गए विभिन्न प्रश्नों के उत्तर, उत्तर-पुस्तिका में अलग-अलग स्थानों पर करने के बजाए एक ही स्थान पर क्रमानुसार हल करें।

Write your roll number on question paper before start writing answers of questions.

प्रश्नों के उत्तर लिखने से पूर्व प्रश्न-पत्र पर रोल नम्बर अवश्य लिखिए।

Question paper consists of three parts A, B and C.

प्रश्न पत्र में तीन भाग अ, ब और स होंगे।

PART A : 20 Marks भाग - अ : 20 अंक

Part A is compulsory having 10 very short answer type questions (with a limit of 20 words) of two marks each. The first question is based on knowledge, understanding and applications of the topics/text covered in the syllabus.

भाग अ में दो अंक के 10 अति लघु उत्तरीय प्रश्न (20 शब्दों की सीमा के साथ) अनिवार्य हैं। पहला प्रश्न पाठ्यक्रम में शामिल विषयों/पाठ के ज्ञान, समझ और अनुप्रयोगों पर आधारित है।

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P.T.O.

PART B : 20 marks भाग – ब : 20 अंक

Part B has 4 questions (with a limit of 150 words) of 10 marks from each unit. The candidate is required to attempt any 2 questions.

प्रश्न पत्र के भाग ब में 10 अंक के 4 प्रश्न (150 शब्दों की सीमा के साथ) हैं। परीक्षार्थी को कोई भी 2 प्रश्न हल करने हैं।

PART C : 80 marks भाग – स : 80 अंक

Part C of the question paper is divided into four units comprising question numbers 6-9. There is one descriptive question from each unit with internal choice. Each question will carry 20 marks.

प्रश्न पत्र के भाग स को प्रश्न संख्या 6-9 सहित चार इकाइयों में विभाजित है। प्रत्येक इकाई से आंतरिक विकल्प के साथ एक वर्णनात्मक प्रश्न है। प्रत्येक प्रश्न 20 अंक का है।

PART - A

1. Give short answer to the following:

2X10=20

- (a) Define Software.
- (b) What is the Agile model in software engineering?
- (c) Write the advantages of white box testing.
- (d) Define the term product and process.
- (e) Define software life cycle.
- (f) Give drawback of waterfall model.
- (g) List out the element of analysis model.
- (h) What do you mean by software prototyping?
- (i) Define Security Risk Management.
- (j) What is Beta Testing?

PART - B

- 2. List some of desirable characteristics of a good software requirement specification (SRS) document. 10
- 3. Describe the verification and validation. 10
- 4. Describe the various design issues to be considered while designing the software. 10
- 5. What do you mean by Software Reliability? Discuss the reliability and availability. 10

PART - C

- 6. Define the term software engineering. Differentiate between program and software. What do you understand by software process? 20

OR

Explain the spiral model. State the merits and demerits of spiral model.

20

7. Explain the COCOMO model with suitable example.

20

OR

Explain the average duration estimation in terms of project scheduling.

20

8. Describe in detail the various phases of the software design process.

20

OR

✓ Differentiate the following:

10+10=20

✓ (i) Black box and White box testing

✓ (ii) Unit and Integration testing

9. Write the advantages and disadvantages of reverse engineering and forward engineering.

20

OR

Explain the following terms:

10+10=20

✓ (i) Risk management

(ii) Software safety