

PUNJAB PUBLIC SERVICE COMMISSION

COMBINED COMPETITIVE EXAMINATION FOR
RECRUITMENT TO THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE, ETC - 2014

SUBJECT: COMPUTER SCIENCE -I

TIME ALLOWED: THREE HOURS
MAXIMUM MARKS: 100

NOTE: Attempt any FIVE questions, select at least ONE question from each section. Each question carry equal marks.

SECTION - A

- Q.1. Briefly explain the history of computer system and basic machine organization.
- Q.2. Give an overview of Operating system, Compiler and Computer Networks.
- Q.3. Discuss fundamental programming constructs. What are data types, control structures, functions and arrays, records and files?

SECTION - B

- Q.4. Explain analog and digital transmission techniques. What is noise?
- Q.5. Discuss the implementation of TCP/IP protocols at different layers.
- Q.6. Discuss the designing and implementation of Full Address and Full subfactor combinational logics.

SECTION - C

- Q.7. Explain the role of Operating system in scheduling, dispatch and memory management.
- Q.8. Write down short note on any two of the following:

- 1- Sorting Algorithms - Bubble sort and Heap sort
- 2- hashing
- 3- Stacks and Queues
- 4- Evolution of multi-user systems

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SUBJECT: COMPUTER SCIENCE -II

TIME ALLOWED: THREE HOURS
MAXIMUM MARKS: 100

NOTE: Attempt any FIVE questions. All questions carry equal marks.

- Q.1. a). What do you understand by the term CFG? What are its constituent parts? Explain with the help of example.
b). What is the use of heuristic function
c). Describe Pros and cons of dynamic programming.

Q.2. a) Explain the following search strategies:

- i). Best-first search
- ii). A* Search

- b). How does an algorithm differ from a program?
c). illustrate the use of first-order-logic to represent the knowledge.

- Q.3. a). How are the two color models RGB and CMY related to each other? How is the colour system HLS constructed?
b). What do you understand by the following terms?

- i). Region fiking
- ii). Animation

- Q.4. a). What do you mean by the data moldesl, explain with examples
b). Write note on the following

- i). Network data model
- ii). Relational data Model

- Q.5.a). Explain the various levels of Data abstraction in database system
b). Discuss the concurrency control mechanism in detail using suitable examples.

Q.6. Write note on the following:

- i). performance tuning
- ii). Query Optimization

- Q.7. a). What is regression testing? Explain how the use of automated tests and testing framework such as JUnit simplifies regression testing.
b). What is the most important difference between generic software product development and custom software development? What might this mean in practice for users of generic software products?

- Q.8. a) What are the advantages of iterative methods over direct methods for solving a system of linear equations?
b). Explain Guass-Jordan method to solve the system of equations.

To succeed, look at things not as they are, but as they can be.: