

TS PGECET 2025 Question Paper

Time Allowed :2 Hours	Maximum Marks :120	Total questions :120
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. **Mode of Examination:** Online (Computer-based examination)
2. **Medium of Exam:** English
3. **Duration of Exam:** 2 hours
4. **Type of Questions:** Multiple-choice questions
5. **Number of Questions:** 120 Questions
6. **Total Marks:** 120 Marks
7. **Marking Scheme:**
 - 1 mark for each correct answer.
 - No negative markings for incorrect answers.

1. Find the residue of the function

$$f(z) = \frac{1}{z^2 + 1}$$

at the pole $z = i$.

- (1) $\frac{1}{2}$
 - (2) $\frac{-1}{2}$
 - (3) 1
 - (4) $-\frac{1}{2}$
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2. What is the output of a NAND gate for the inputs A = 1, B = 1?

- (1) 1
 - (2) 0
 - (3) 2
 - (4) Undefined
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3. The transfer function of a system is given by:

$$\frac{Y(s)}{X(s)} = \frac{10}{s^2 + 3s + 10}$$

What is the damping ratio of the system?

- (1) 0.5
 - (2) 0.3
 - (3) 0.2
 - (4) 0.7
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4. The ultimate tensile strength of a material is 400 MPa. If the diameter of the wire is 10 mm, what is the maximum force that can be applied to the wire before it breaks?

- (1) 3144 N
 - (2) 2827 N
 - (3) 314 N
 - (4) 282 N
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5. Which of the following is not a type of process scheduling in operating systems?

- (A) First-Come-First-Served (FCFS)
 - (B) Round Robin (RR)
 - (C) Shortest Job First (SJF)
 - (D) Longest Job First (LJF)
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6. The flow rate of a liquid through a pipe is $0.5 \text{ m}^3/\text{s}$. What is the velocity of the fluid if the pipe has a diameter of 0.1 m ?

- (1) 5 m/s
 - (2) 10 m/s
 - (3) 15 m/s
 - (4) 20 m/s
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7. The output voltage of a transistor amplifier is 12 V when the input is 2 V . What is the voltage gain of the amplifier?

- (1) 6
 - (2) 5
 - (3) 4
 - (4) 3
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8. What is the bandwidth of a signal if the highest frequency is 5 kHz and the lowest frequency is 2 kHz ?

- (1) 3 kHz
 - (2) 5 kHz
 - (3) 7 kHz
 - (4) 10 kHz
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9. Which of the following is a device used to connect multiple networks and operate at the network layer of the OSI model?

- (A) Switch
 - (B) Router
 - (C) Hub
 - (D) Bridge
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10. What is the size of the address bus in a 16-bit microprocessor?

- (1) 16 bits
 - (2) 8 bits
 - (3) 32 bits
 - (4) 64 bits
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