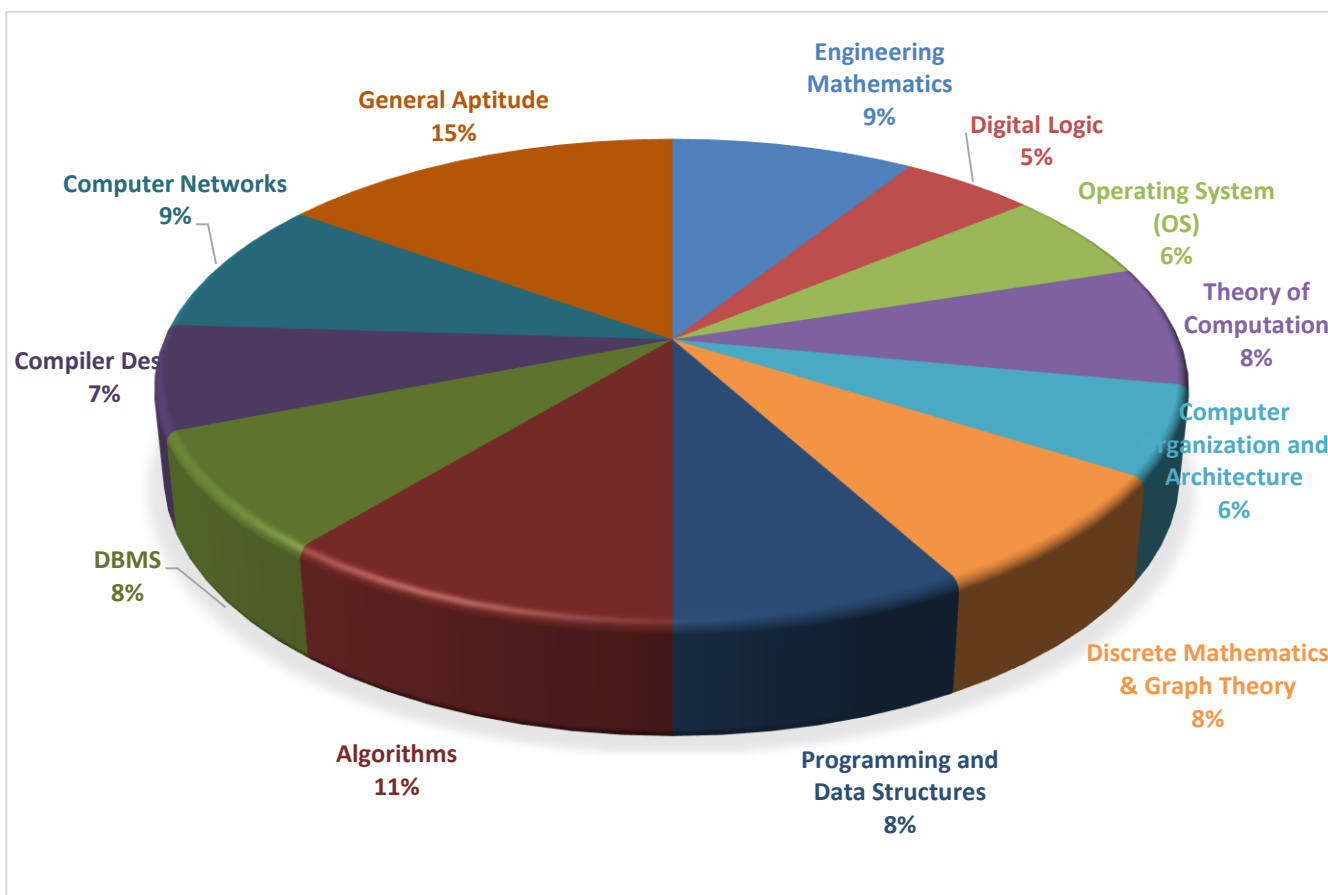


**ANALYSIS OF GATE 2021**

Memory Based

Computer Science Engineering



CS ANALYSIS-2021_Feb-13_Morning

SUBJECT	No. of Ques.	Topics Asked in Paper(Memory Based)	Level of Ques.	Total Marks
Engineering Mathematics	1 Marks: 1 2 Marks: 4	PDF, limits, Eigen values and vectors Matrix	Moderate to Difficult	9
Digital Logic	1 Marks: 1 2 Marks: 2	Synchronous circuit, Number system	Easy	5
Operating System (OS)	1 Marks: 4 2 Marks: 1	Process Synchronous, Scheduling Algorithm	Moderate to Difficult	6
Theory of Computation	1 Marks: 2 2 Marks: 3	DFA, push down automata, decidability and undecidability, CFL and regular language	Medium	8
Computer Organization and Architecture	1 Marks: 2 2 Marks: 2	Pipeline, memory organization addressing modes, floating point representation	Medium	6
Discrete Mathematics & Graph Theory	1 Marks: 2 2 Marks: 3	Groups, Graphs, Combinatorics	Medium	8
Programming and Data Structures	1 Marks: 2 2 Marks: 3	Function, stack and queue	Medium	8
Algorithms	1 Marks: 3 2 Marks: 4	Spanning tree, Asymptotic notation	Medium	11
Database Management System	1 Marks: 2 2 Marks: 3	Relational algebra	Medium	8
Compiler Design	1 Marks: 1 2 Marks: 3	SDT, code optimization	Easy	7
Computer Networks	1 Marks: 1 2 Marks: 4	Transport layer, network layer	Medium	9
General Aptitude	1 Marks: 5 2 Marks: 5	Geometry, Probability, Word analogy, Percentage, ratio, passage, paper folding, grammar	Easy	15
Total	65			100
Faculty Feedback	13 MSQs level of questions Medium			



GATE 2021 Examination* (Memory Based)

Computer Science Engineering

Test Date: 13th Feb 2021

Test Time: 09:30 am to 12:30 pm

Stream Name: Computer Science Engineering

General Aptitude

1. The question below consists of a pair of related words followed by four pairs of words. Select the pair that best expresses the relation in the original pair. Unemployed: Worker
- (A) fallow: land
 - (B) unaware: sleeper
 - (C) wit: jester
 - (D) renovated: house

[Ans. *]

2. If the ratio of boys and girls in a class is 7:3. Then which of the values possibly the total number of students
- (A) 50
 - (B) 21
 - (C) 37
 - (D) 73

[Ans. *]

3. We have two rectangular sheet paper M and N of dimension $6\text{ cm} \times 1\text{ cm}$ each sheet is rolled to form an open cylinder by bringing two short edges of the sheet together. Sheet N is cut into equal square patches and assembled to form the largest possible closed cube. Assuming the ends of cylinder are closed the ratio of the volume of the cylinder to that of cube is
- (A) $3/\pi$
 - (B) $9/\pi$
 - (C) 3π
 - (D) $\pi/2$



4. There are five bags each containing identical sets of ten distinct chocolates. One chocolate is picked from each bag probability that at least two chocolate are identical is _____.
- (A) 0.6976
(B) 0.3024
(C) 0.4235
(D) 0.8125

5. (i) Everybody in the class is prepared for the exam.
(ii) Baby invited Danish to his home because he enjoys playing chess

Which is correct observation about the two

- (A) (i) is grammatically correct (ii) is unambiguous
(B) (ii) grammatically correct (ii) ambiguous
(C) (i) grammatically incorrect (ii) ambiguous
(D) (i) grammatically incorrect (ii) unambiguous

[Ans. *]

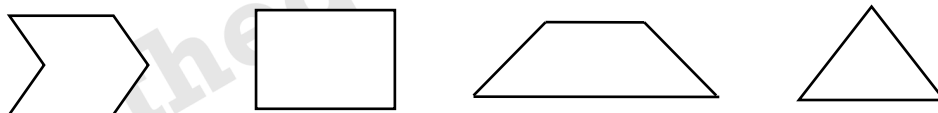
6. _____ is to surgery as writer is to _____

Which of the following option maintains a similar logical relation in above sentence.

- (A) medicine, grammar
(B) hospital, library
(C) plan, outline
(D) doctor, books

7. A polygon is convex if, for every pair of points, P & Q belonging to the polygon. The line segment PQ lies completely inside or on the polygon.

Which one of the following is not a convex polygon?



[Ans. *]

- 8.

Item	Cost	Profit	M.P
P	5400	-	5860
Q	-	25	10000

Static of cost of item P to cost of Q is 3: 4 discount is calculated as the difference between M.P & S.P. the profit percentage is calculated as the ratio of the difference between S.P and cost to the cost ($\text{profit \%} = \frac{\text{S.P} - \text{cost}}{\text{cost}} \times 100$) the discount on item Q, as a percentage of its marked price is _____.

- (A) 12.5
(B) 10
(C) 25
(D) 5

[Ans. *]



Technical

1. $\lim_{x \rightarrow -3} \frac{\sqrt{2x+22} - 4}{x+3}$

(rounded to two decimal places)

2. Given $[A] = \begin{bmatrix} 0 & 1 & 1 & 1 \\ 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 1 & 0 \end{bmatrix}$

Largest eigen value of the matrix is _____.

[Ans. *]

3. "Digital Logic (Number System)

Q. representation of a number in base 3 is 210. What is its hexa decimal representation?"

[Ans. *]

4. A graph g contain 8 vertices and 5 faces find the number of edges?

[Ans. *]

5. "G is group of order 6 H is subgroup of group such that $1 \leq |H| \leq 6$ then which is true

- (A) Both g and h cyclic
- (B) G cyclic h not cyclic
- (C) G not cyclic h cyclic
- (D) None cyclic

[Ans. *]

6. "G is group with order 8.

H is subgroup of G

$1 \leq |H| \leq 6$ then which is true

- (A) Both g and h cyclic
- (B) G cyclic h not cyclic
- (C) G not cyclic h cyclic
- (D) None cyclic

7. Consider 3 process A, B, C all arrived at time zero, with respective burst time 10, 20, 16. The average waiting time with non Preemptive SJF S

[Ans. *]

More Questions will come

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8. A

9. A

10. A

11. A

12. A

13. A

14. A

15. A

16. A

17. A

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Q.26 - Q.55 Carry Two Mark each.

26. A

27. A

28. A

29. A

30. A

31. A

32. A

33. A

34. A

35. A

36. A

37. A

38. A

39. A

40. A

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41. A

42. A

43. A

44. A

45. A

46. A

47. A

48. A

49. A

50. A

51. A

52. A

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