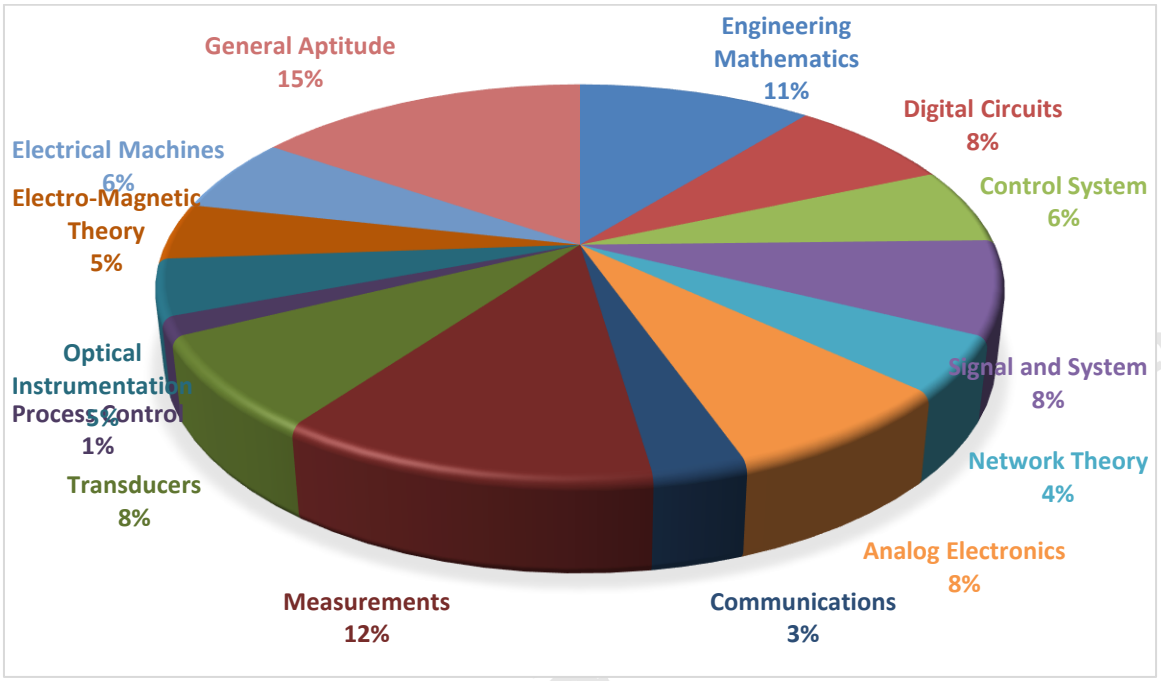
ANALYSIS OF GATE 2021

Memory Based

Instrumentation Engineering



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IN ANALYSIS-2021_Feb-6_Morning

SUBJECT	No. of Ques.	Topics Asked in Paper (Memory Based)	Level of Ques.
Engineering Mathematics	7	Complex variable Probability density, limit, Determinant function	
Digital Circuits	5	ATOD or D/A converter, flash type ADC, multiplexer	Easy
Control System	4	Time response Analysis	Medium
Signal and System	5	Laplace transformer, Basic properties of signal	Easy
Network Theory	3		Easy
Analog Electronics	5	Application of op-amp amplifier	Medium
Communications	2		Easy
Measurements	8	AC, bridge	
Transducers	5	Pressure measurement, temperature measurement, resistive, capacitive and inductive transducer	
Process Control	1	PID controller	
Optical Instrumentation	3	Laser, optical fiber, interferometer	
Electro-Magnetic Theory	3	Line current, magnetic circuit	Medium
Electrical Machines	4		Medium
General Aptitude	10		Easy
Total	65		
Faculty Feedback	one mark and 2 marks questions of technical section were mixed. Total MCQ were 19, NAT 32, MSQ – 4, GA all are MCQ questions		

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GATE 2021 Examination* (Memory Based)

Instrumentation Engineering

Test Date: 6th Feb 2021

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

Stream Name: Instrumentation Engineering

General Aptitude

1. Let $\oplus$ and $\odot$ are two operators on p and q

$p \oplus q = \frac{p^2 + q^2}{pq}$ and $p \odot q = \frac{p^2}{q}$

If $x \oplus y = 2 \odot 2$, then x will be equal to

(A) 2y
(B) y/2
(C) 3y/2
(D) y

[Ans. D]

2. Getting to the top is _____ than staying on top.

(A) easier
(B) more easier
(C) easiest
(D) much easier

[Ans. A]

3. Two papers M and N have identical dimension of $6m * 4m$.

Operation 1: Folded the paper joining the short sides
Operation 2: Folded the paper joining the longer sides.
If operation 1 is done on paper M and operation 2 is done on paper N, then the ratio of perimeter of paper N to M is

(A) 5: 13
(B) 3: 2
(C) 7: 5
(D) 13: 7

[Ans. D]

4. Humans have the ability to construct worlds entirely in their mind, which does not exist in the physical world. So far as we know, no other species possess this. This skill is so important that

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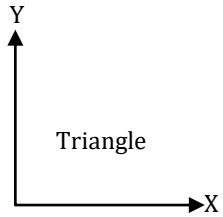
we have different words to refer to its different flavours such as imagination invention and innovation.
With respect to the above, which of the following is correct?
(A) Ima, invention and innovation are unrelated to the ability to construct mental world
(B) We do not know any species than humans who possess ability to construct mental world
(C) Ima…, Invention…, and innovation refers to unrelated skills
(D) No species possess ability to construct mental world.
[Ans. *]

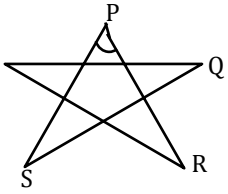
5. Let $\lambda(p, q) = \begin{cases} (p-q)^2 \text{ if } p \geq q \\ p+q \text{ if } p < q \end{cases}$
Then $\frac{\lambda(-(-3+2),(-2+3))}{(-(-2+1))}$ will be
(A) 16/3
(B) 16
(C) 0
(D) -1
[Ans. *]

6. What will be the mirror image of the following



(A)
(B)
(C)
(D)
[Ans. *]

7. Following shape is forward by S equal length segments PR, PS, TQ, TR, and QS. what will be the angle θ ?



[Ans. *]36

8. In a company ,35% employees drink coffee, 40%. Drink tea and 10% .drink both tea and coffee .Then how much percentage of employees will neither drink coffee nor tea ?
(A) 40%

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(B) 15%
(C) 25%
(D) 35%
[Ans. D]

9. For persons P, Q, R, S are to be seated in a row facing same direction .P and Q cannot be seated adjacent .S should be seated right of Q. Then how many distinct seating arrangement is possible?
(A) 6
(B) 8
(C) 2
(D) 4
[Ans. D]

10. A

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Q.1 - Q.25 Carry One Mark each.

1. A
2. A
3. A
4. A
5. A
6. A
7. A
8. A
9. A
10. A
11. A
12. A
13. A
14. A

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15. A

16. A

17. A

18. A

19. A

20. A

21. A

22. A

23. A

24. 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

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44. A

45. A

46. A

47. A

48. A

49. A

50. A

51. A

52. A

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