

BIGBANG

EDGE TEST

SAMPLE PAPER

For Students presently in Class VIII

Paper 2

JEE Advanced

Paper Code: 89-2

Duration : 105 minutes

Maximum Marks : 135

Please read the instructions and guidelines carefully :

Important Note : Please ensure to accurately input the details for the Question Paper Code as indicated at the top of this sheet (Side 2) into the corresponding columns / fields on the OMR sheet before proceeding with the paper. Incorrectly filled information regarding the class or paper may result in inaccurate outcomes or results.

"This paper has been scientifically designed to evaluate your potential – manifested and hidden for the target examinations mentioned in various sections of the paper. Thus, your adherence to the instructions is critical in the evaluation of the same"

1. This Question paper consists of 2 sections.
2. Student should devote allotted time for each section. If a section is easy, then it is easy for everyone & was meant to be like that with a goal in mind. Do not switch over to another section if you find the section to be easy. If a section is tough, then it is tough for everyone. You are advised to spend 45 Minutes on Section-I and 60 Minutes on Section-II. Dedicating the required time to finish each section successfully is essential. Opening the next section before completing the allotted time for the preceding section is not permitted. This adherence is crucial for assessing your true potential, as each section is meticulously crafted to evaluate your potential for the corresponding competitive examinations.
3. Candidate should open the seal of Section-II only after devoting 45 minutes on Section-I.
4. Sheets will be given to each candidate for rough work. Candidate must fill all details on the rough sheet and submit the same to invigilator along with OMR sheet. Candidate must mention the Question No. while doing the rough work in the sheet.
5. Please note candidates are not allowed to bring any prohibited items into the exam hall such as electronic devices, mobile phones, smart watch, earphones, calculators, books, notes, formula sheets, and bags.
6. Marking scheme is given in table below:

Section	Subject	Question no.	Marking Scheme for each question	
			Correct answer	Wrong answer
SECTION – I (JEE Advanced) Time Allotted: 45 Minutes	Higher Order Thinking Skills (IQ)	1 to 22	+3	–1
SECTION – II (JEE Advanced) Time Allotted: 60 Minutes	PHYSICS (PART-A)	23 to 25	+3	–1
	CHEMISTRY (PART-B)	26 to 28	+3	–1
	MATHEMATICS (PART-C)	29 to 31	+3	–1
	PHYSICS (PART-D)	32 to 33	+4 *Partial Marking	–2
	CHEMISTRY (PART-E)	34 to 35	+4 *Partial Marking	–2
	MATHEMATICS (PART-F)	36 to 37	+4 *Partial Marking	–2
	PHYSICS (PART- G)	38 to 39	+3	–1
	CHEMISTRY (PART- H)	40 to 41	+3	–1
	MATHEMATICS (PART- I)	42 to 43	+3	–1

* Partial Marking: (Q. No. 32 to 37):

Full Marks	: +4	If only (all) the correct option(s) is(are) chosen;
Partial Marks	: +3	If all the four options are correct but ONLY three options are chosen;
Partial Marks	: +2	If three or more options are correct but ONLY two options are chosen, both of which are correct;
Partial Marks	: +1	If two or more options are correct but ONLY one option is chosen and it is a correct option;
Zero Marks	: 0	If none of the options is chosen (i.e. the question is unanswered)
Negative Marks	: -2	In all other cases.

Section – I

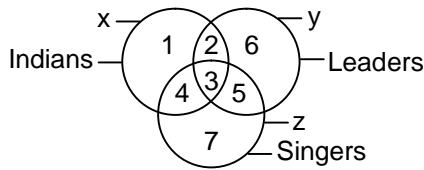
Time: 45 Minutes

HIGHER ORDER THINKING SKILLS (IQ)


This part contains 13 Multiple Choice Questions number 1 to 13. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

1. In the following question given below is a sequence in which some letters are missing. From the choices, select the choice that gives the letters that can fill the blanks in the given sequence.
ab _ a _ d bc a _ d
(A) cdbcabbc (B) cdbcadbc
(C) cdbacdbc (D) cdabcbcd
2. Find the missing character.
- | | | |
|---|---|---|
| B | G | N |
| D | J | R |
| G | N | ? |
- (A) U (B) V
(C) W (D) X
3. Find the missing number?
1, 2, 5, 16, 65 _____
(A) 75 (B) 326
(C) 320 (D) None
4. Ram is 25th from upper side and Shyam is 25th from lower side if the total number of students is 60, then how many students between Ram and Shyam?
(A) 9 (B) 10
(C) 11 (D) 12
5. Study the following blood relation information carefully and answer the given questions.
(i) A \$ B means A is the mother of B (ii) A # B means A is the father of B
(iii) A @ B means A is the husband of B (iv) A % B means A is the father of B
P @ Q \$ M # T indicates what relationship of P with T?
(A) Paternal grand mother (B) Maternal grand mother
(C) Paternal grand father (D) Maternal grand
6. Three of the following four are alike in a certain way and so form a group. Which one does not belong to that group?
(A) PSRQ (B) CGEF
(C) JMLK (D) VYXW
7. In a certain code, RAHUL is coded as 75, then how is SUMAN coded?
(A) 65 (B) 66
(C) 67 (D) 68


8. Study the following figure carefully and answer the given question:



Which region denotes Indian leaders who are not singers?

- (A) 2 (B) 3
(C) 4 (D) 5
9. At what angle are the hands of a clock inclined at 25 minute past 5?
(A) 137.5° (B) 150°
(C) 12.5° (D) None
10. Two positions of a dice are shown below. Identify the number at the bottom when the number '3' is at top.
- 

(i)

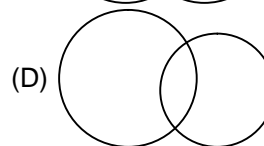
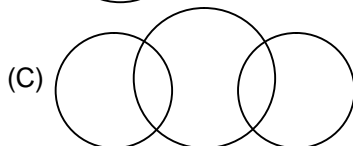
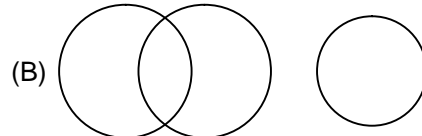
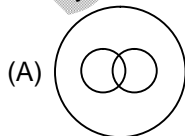


(ii)
- (A) 2 (B) 4
(C) 5 (D) 6
11. In a certain code, DESK is written as #52, RIDE is written as %7#\$. How is RISK written in that code?
(A) %725 (B) %752
(C) %7#2 (D) %7\$#
12. If South-East becomes North, North-East becomes West and so on. What will West become?
(A) North-East (B) North-West
(C) South-East (D) South-West
13. What day of the week did 30 June 1974 fall?
(A) Sunday (B) Monday
(C) Tuesday (D) Wednesday

This part contains **THREE (03)** comprehensions. Based on each comprehension, there are **THREE (03)** questions of **Multiple Choice Questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

Comprehension for Q. No. 14 to 16

Each of the questions contains three objects. The relationship among these three objects can be represented by one of the Venn diagrams given below.



- 14. Boys, Girls, Educated
- 15. Teachers, Researchers, Vehicles
- 16. Politicians, Agriculturists, Human Beings

Comprehension for Q. No. 17 to 19

Study the following information carefully and answer the given questions:

- (i) B and E are good in dramatic and computer science.
- (ii) A and B are good in computer science and physics.
- (iii) A, D and C are good in physics and history.
- (iv) C and A are good in physics and mathematics.
- (v) D and E are good in history and dramatic.

- 17. Who is good in physics, history and dramatic?
(A) A (B) B
(C) D (D) E
- 18. Who is good in physics, history and mathematics, but not in computer science?
(A) A (B) B
(C) C (D) D
- 19. Who is good in computer science, history and dramatic?
(A) A (B) B
(C) C (D) E

Comprehension for Q. No. 20 to 22

Eight pillars are arranged in a ground in a certain way. A is 12 m west of B. G is 3 m north of F. C is 10 m west of D which is 5 m south of E. H is in exactly between E and F. C is 8 m north of B. E is 24 m east of F.

- 20. What is the shortest distance between H and D?
(A) 13 m (B) 15 m
(C) 20 m (D) 21 m
- 21. If a person starts walking from pillar B and stop pillar H, what is the total distance travelled by him?
(A) 28 m (B) 40 m
(C) 35 m (D) 37 m
- 22. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?
(A) 230 m (B) 240 m
(C) 260 m (D) 270 m

Section – II**Time: 60 Minutes****PHYSICS (PART – A)**

*This part contains 3 Multiple Choice Questions number 23 to 25. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

23. Which of the following is the correct relationship between force, pressure and area?
(A) Pressure = Force \times Area (B) Force = Pressure \div Area
(C) Force = Pressure \times Area (D) None of these are correct
24. An object oscillates 10 times in 20 seconds. Its frequency of oscillation is
(A) 2 Hz (B) 1 Hz
(C) 200 Hz (D) 0.5 Hz
25. You push a box with a horizontal force of 50 newton (N). At the same time, your friend pushes it with a force of 80 newton (N) in opposite direction to your push. The object experiences a resultant force of
(A) 30 N towards your friend (B) 30 N towards you
(C) 130 N towards your friend (D) 130 N towards you

CHEMISTRY (PART – B)

*This part contains 3 Multiple Choice Questions number 26 to 28. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

26. When hydrochloric acid reacts with sodium carbonate solution, the gas released is:
(A) Sulphur dioxide (B) Oxygen
(C) Hydrogen (D) Carbon dioxide
27. Calamine is an ore of
(A) Aluminium (B) Iron
(C) Zinc (D) Copper
28. Amalgam is an alloy of any metal with which of the following?
(A) C (B) Ag
(C) Mg (D) Hg

MATHEMATICS (PART – C)

*This part contains 3 Multiple Choice Questions number 29 to 31. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

29. 12 litres are drawn out from 35 litres of a 5 : 7 milk and water solution. What is the ratio of milk and water in the remaining solution?
(A) 7 : 5 (B) 25 : 12
(C) 12 : 25 (D) 5 : 7

30. If $x = 17^4$ and $y = 14 \times 16 \times 18 \times 20$, then _____
 (A) $x > y$ (B) $x < y$
 (C) $x = y$ (D) None of these

31. Find the value of $\sqrt{\frac{(12.12)^2 - (8.12)^2}{(0.25)^2 + (0.25)(19.99)}} + \frac{\left(8^{\frac{-3}{4}}\right)^{\frac{8}{6}} \times 16^{\frac{3}{4}}}{\sqrt[3]{\left[\left((128)^{-5}\right)^{\frac{3}{7}}\right]^{\frac{-1}{5}}}}$

You have to take positive square roots only.

- (A) 0 (B) 1
 (C) $\frac{9}{2}$ (D) None of these

PHYSICS (PART – D)

This part contains 2 Multiple Choice Multi Correct Type Questions number 32 to 33. Each question has 4 choices (A), (B), (C) and (D), out of which ONE OR MORE THAN ONE is/are correct.

32. The velocity of a particle is zero at $t = 0$
 (A) The acceleration at $t = 0$ must be zero
 (B) The acceleration at $t = 0$ may be zero
 (C) If the acceleration is zero from $t = 0$ to $t = 10$ s, the speed is also zero in this interval
 (D) If the speed is zero from $t = 0$ to $t = 10$ s the acceleration is also zero in this interval
33. The force exerted by the floor of an elevator on the foot of a person standing there is more than the weight of the person if the elevator is
 (A) going up and slowing down (B) going up and speeding up
 (C) going down and slowing down (D) going down and speeding up

CHEMISTRY (PART – E)

This part contains 2 Multiple Choice Multi Correct Type Questions number 34 to 35. Each question has 4 choices (A), (B), (C) and (D), out of which ONE OR MORE THAN ONE is/are correct.

34. Which of the following element does not present in coal?
 (A) Carbon (B) Iron
 (C) Nitrogen (D) Zinc
35. Which of the following component of air does not contribute to corrosion?
 (A) Oxygen (B) Water vapour
 (C) Nitrogen (D) Argon

MATHEMATICS (PART – F)

This part contains 2 Multiple Choice Multi Correct Type Questions number 36 to 37. Each question has 4 choices (A), (B), (C) and (D), out of which ONE OR MORE THAN ONE is/are correct.

36. If $x^2 - 8 = 0$, find x
 (A) 2 (B) $2\sqrt{2}$
 (C) $-2\sqrt{2}$ (D) 64

37. If $x^3 + y^3 + z^3 = 3xyz$, x, y, z being non zero, then which of the following may be true
- (A) $x + y + z = 0$
 (B) $x = y = z$
 (C) $x^2 + y^2 + z^2 - xy - yz - zx$ is non-negative
 (D) $x = y + z$

PHYSICS (PART – G)

*This part contains **ONE (01)** comprehension. Based on comprehension, there are **TWO (02)** questions of **Multiple Choice Questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

Comprehension for Q. No. 38 to 39

A stone of mass 5 kg is thrown vertical upward direction. (Take $g = 10 \text{ ms}^{-2}$). Neglect air friction. Based on above information, answer the following questions:

38. The net force acting on stone during its upward motion is
 (A) 0.5 N, upward (B) 5 N, downward
 (C) 50 N, downward (D) zero
39. The net acceleration acting on stone at the highest point where it is momentarily at rest is
 (A) 10 m/s^2 , upward (B) 10 m/s^2 , first upward later downward
 (C) 10 m/s^2 , downward (D) zero

CHEMISTRY (PART – H)

*This part contains **ONE (01)** comprehension. Based on comprehension, there are **TWO (02)** questions of **Multiple Choice Questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

Comprehension for Q. No. 40 to 41

The rocks in which metals occur in the native state or combined state (in the form of compounds) are called minerals. The minerals from which the metals can be conveniently and economically extracted are known as ores.

40. A mineral is called ore if
 (A) The metal present in the mineral is costly (B) A metal can be extracted from it
 (C) A metal can be extracted profitably from it (D) A metal cannot be extracted from it
41. Which of the following statements is true?
 (A) All ores are minerals (B) All minerals are ores
 (C) A mineral cannot be an ore (D) An ore cannot be a mineral

MATHEMATICS (PART – I)

*This part contains **ONE (01)** comprehension. Based on comprehension, there are **TWO (02)** questions of **Multiple Choice Questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

Comprehension for Q. No. 42 to 43

Sumit left for Kanpur by car. Having travelled 420 km, which constituted 87.5% of the distance, he was stopped due to a traffic jam. The jam was cleared in 9 min. Sumit then increased his speed by 20km/hr and reached his destination 6 min earlier than had anticipated.

42. What was the initial speed (in kmph) of the car?
(A) 80 (B) 75
(C) 72 (D) 60
43. What is the average speed of the car over the entire journey?
(A) 64km/hr (B) 60km/hr
(C) 72km/hr (D) None of these

BIGBANG

EDGE TEST

SAMPLE PAPER

For Students presently in Class VIII

Paper 2

JEE Advanced

Paper Code: 89-2

ANSWER KEYS

- | | | | |
|-------------|----------|----------|-------------|
| 1. B | 2. C | 3. B | 4. B |
| 5. C | 6. B | 7. C | 8. A |
| 9. C | 10. C | 11. B | 12. C |
| 13. A | 14. C | 15. B | 16. A |
| 17. C | 18. C | 19. D | 20. A |
| 21. C | 22. D | 23. C | 24. D |
| 25. B | 26. D | 27. C | 28. D |
| 29. D | 30. A | 31. C | 32. B, C, D |
| 33. B, C | 34. B, D | 35. C, D | 36. B, C |
| 37. A, B, C | 38. C | 39. C | 40. C |
| 41. A | 42. D | 43. D | |