Class VII   Total Marks: 300

EDUDIGM
Bengal Talent Search Examination

Instructions:

1) Write your name on the questions paper and fill the OMR sheet immediately.

2) Do not start writing unless instructed

3) Use of calculators or other gadgets is not allowed.

4) There is no negative marking

5) There will be **no** clarification given about the correctness or the meaning of a question. If you have any doubt you can make a comment in the answer script provided. If you feel that there is a different answer to the choices provided, write that on the answer script.

6) No Extra sheet will be provided for the rough work

7) Any question paper without the Candidate's name could be disqualified.

8) Any attempt of unfair means will lead to immediate cancellation of the paper.

9) A student's paper can be cancelled without assigning any reason.

Marking Scheme:

1) Section I contains 40 questions. Each question carries 4 marks.

2) Section II contains 30 questions. Each question carries 3 marks.

3) Section III contains 10 questions. Each question carries variable marks as: 2 + 4 + 4 + 6 + 6 + 8 + 2 + 6 + 8 + 4

Candidate's Name:

Duration: 2:00 Hrs.

Section-I

This section contains 40 Mathematics and Aptitude questions.

Directions: Out of the four choices given for each of the questions from 1 to 5, you have to select one that will maintain the same relationship on the two sides of the sign : : if it is substituted for the question mark '?'

1. XZTV : ? : : RTNP : JLFH

(a) PRNL   (b) PRNM   (c) PRLN   (d) RPLN

2. ABCD : EFGH : : MPON : ?

(a) QTRS   (b) TPRS   (c) STQR   (d) QTSR

3. LNPR : TVXZ : : FHJL : ?

(a) RPNT   (b) NTRP   (c) NPRT   (d) RTNP

4. IKGE : JLHF : : LOIF : ?

(a) JPMG   (b) MPGI   (c) MPJG   (d) PMGJ

5. TRUS : OMPN : : ? : JHKI

(a) LOMP   (b) OMPN   (c) LNMO   (d) MPNP

Directions: Questions from 6 to 15 are based on logic. Write the corerct answer

6. Amar is shorter than Bimal but not as short as Chaman. Dinesh is taller then Ekta who is not as short as Fatima. Ekta is shorter than Chaman. Who is shortest among the group?

(a) Amar   (b) Ekta   (c) Fatima   (d) Bimal

7. In a class among the passed candidates in the annual examination, arun's position is 12th from top and 28th from bottom. If fifteen students failed, how many students appeared in the exmanination?

(a) 51   (b) 52   (c) 53   (d) 54

8. Five boys are sitting in a row. Pramod is on the right of Mukesh. Naresh is on the left of Mukesh but is on the right of Virendra. Anand is on the right of Pramod. Which boy is on the extreme left?

(a) Virendra (b) Anand   (c) Pramod   (d) Mukesh

9. Rani is Jayant's sister. Monica is Jayant's mother. Dinesh is Monica's father. Lata is Dinesh's mother. How is Rani related to Lata?

(a) Daughter   (b) Grand daughter

(c) Great grand daughter   (d) Great grand mother

10. If Friday falls after two days of 15th August, then what day it will be on the last day of August?

(a) Monday   (b) Tuesday

(c) Thursday   (d) Friday

11.Bimla is as old as Aruna but half as young as Fatima. Chameli is half the age of Aruna but is twice older then Divya. Which two ladies form the pair of the oldest and the youngest?

(a) Fatima and Divya   (b) Fatima and Bimala

(c) Fatima an d aruna   (d) Aruna and Divya

12. If 'a' stands for addition 'b' for substraction , 'g' for division and 'd' for multiplication, then what for does 6a7b10g5d3 stand?

(a) 4   (b) 5   (c) 6   (d) 7

13. If BACK is written as AZBJ, how is LACK written?

(a) JZBJ   (b) KZBJ   (c) LZBJ   (d) MZBJ

14. If America is coded as ckgpkac, how will Germany be coded?

(a) ictkcma   (b) ictlcma

(c) ictkcla   (d) ictmopa

15. if M=13 and MAD = 18 what is MADAM equal to?

(a) 31   (b) 32   (c) 33   (d) 34

Directions for Question 16-20: In each of the following squares a different rule has been followed to fill up the numbers in the nine cells. Find out the rule and supply the number in the missing place where the question mark (?) is placed from among the four given choices

16.

3	4	5
3	7	12
3	?	22

(a) 8   (b) 9   (c) 10   (d) 11

17.

1	½	1/3
2	1	?
3	3/2	1

(a) 1/3   (b) ½   (c) 2/3   (d) 1

18.

2	4	6
4	6	10
?	10	16

(a) 2   (b) 6   (c) 10   (d) 12

19.

?	5	5
2	5	10
3	5	15

(a) 1   (b) 2   (c) 5   (d) 0

20.

1	½	3/2
2	2/3	8/3
3	?	15/4

(a) ½   (b) 2/3   (c) ¾   (d) 4/5

Directions for Question 21-25: Column I in the following gives a word and Column II gives its code against the word. You have to find out from amongst the four choices given for each question as to what is the corersponding code for each letter

Column I	Column II
B A L E	c d m k
W O R L D	g j y n c
A I R	k a n
S O C K	h b t g
L O V E R	d l g c n
S A L E	k b c d
C O I L	g c h a
V O I L E	g c l d a
G O L F	c q s g
D O N K E Y	x t d g j c

Which is the code letter for:

	(1)	(2)	(3)	(4)
21.L	c	d	c	f
22. O	c	f	g	h
23.V	j	k	l	m
24.E	c	d	c	f
25. R	k	l	m	n

Directions: In each of the following questions (26 to 30) numbers are arranged in a particular order. There is a black space in each of the following questions. Choose the missing number from the given alternatives

26.   1, 3, 5, 7, 13, 12, 25, 18, ?

(a) 25   (b) 30   (c) 37   (d) 41

27.   3, 6, 12, 15, 30, 33, ?

(a) 36   (b) 39   (c) 60   (d) 66

28.   2, 9, 28, 65, 126, ?

(a) 187   (b) 217   (c) 242   (d) 244

29.   80, 63, 48, 35, 24, ?

(a) 13   (b) 15   (c) 17   (d) 19

30.   2, 5, 6, 8, 12, 14, 20, 23, ?

(a) 26   (b) 27   (c) 30   (d) 32

Instruction: In each of the following questions 31-35 the items are depicted by set of circles on the basis of relationship among items. Match the right set of items which corresponding set of circles.
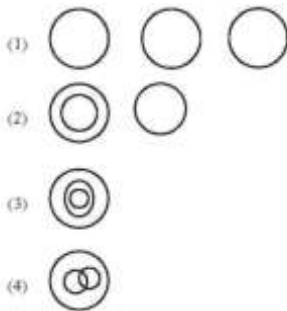
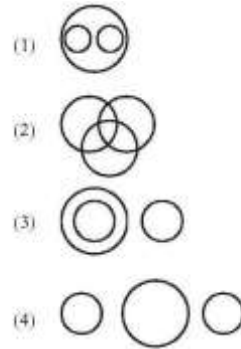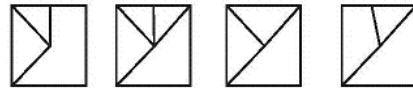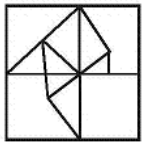| 31. India : Eath : Jupiter	32.Alphabet : Words : Paragraph
33. Natural numbers : Prime nunmbers : Even numbers	34. President : Politician : Scientist
35.Reptiles : Snake : Lizard	
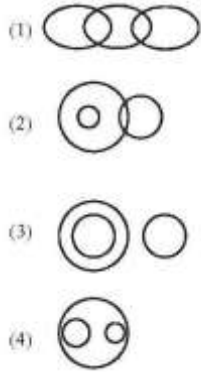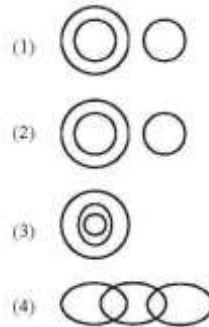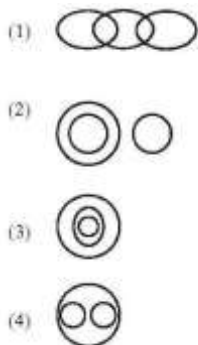
Drection: In questions 36-40, choose the correct figure to complete the pattern in the problem figure. (The bottom right square in the pattern is to be filled by one of the four options)

36.

37

38

39.
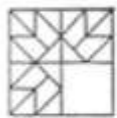

40.

Section-II

This section contains 30 science based questions.

1. Lizards belong to which animal group?

(a) amphibians   (b) reptiles   (c) invertebrates   (d) mammals

2. H_2O is the chemical formula of:

(a) hydrogen peroxide   (b) ozone   (c) ammonia   (d) water

3. The third planet from the sun is:

(a) Mercury   (b) Mars   (c) Earth   (d) Venus

4. Entomology is the scientific study of:

(a) internal organs   (b) meanings of words   (c) insects   (d) trees

5. The green pigment found in plants that performs photosynthesis is:

(a) melanin   (b) chloroplast   (c) chlorophyll   (d) chromatophore

6. An android is a robot that:

(a) is made to resemble a human in some way

(b) was built by a machine or other robots

(c) can make decisions or think for itself to some extent

(d) has been built to perform multiple tasks

7. How many legs do insects have?

(a) 4   (b) 6   (c) some have 6, some have 8   (d) 8

8. An igneous rock is one:

(a) that formed as a result of temperature or pressure

(b) that formed from deposition of sediments

(c) which formed from cooled magma

(d) that fell from space as meteorite

9. The asteroid belt is located between:

(a) Mars and Jupiter   (b) Earth and Mars

(c) Jupiter and Saturn   (d) Venus and Earth

10. The primary function of xylem in plants is to:

(a) exchange oxygen and carbon dioxide (b) transport water and minerals

(c) perform photosynthesis   (d) store glucose

11. The most abundant element in the universe is:

(a) helium   (b) hydrogen   (c) carbon   (d) silicon

12. Recycling refers to:

(a) burning trash completely

(b) burying trash in a landfill

(c) reducing the amount of waste left over from using a product

(d) reusing a resource to make something new

13. Which of the following is an example of matter?

(a) atoms of the element carbon

(b) a block of wood

(c) my house

(d) All of the above are examples of matter. Matter is anything that takes up space.

14. Grass appears green because:

(a) It absorbs green light.

(b) It reflects green light back to your eyes.

(c) It reflects red light back to your eyes.

(d) It absorbs all colours

15. A simple machine:

(a) increases the amount of work required to perform a task.

(b) decreases the amount of work required to perform a task.

(c) requires the same amount of work to complete a task but is automated so that it does the work for you.

(d) reduces the force or effort required to do a task or changes the direction of force used to perform a task.

16. A solar eclipse occurs when:

(a) the Earth's shadow falls on the moon.

(b) the moon's shadow falls on the Earth.

(c) the Earth moves between the sun and the moon.

(d) Venus is between the sun and the Earth.

17. A plant is an example of a producer. Producers are living organisms that:

(a) make their own food

(b) break down dead organisms for food

(c) eat other organisms for food

(d) depend upon other organisms for food

18. Which planet is the brightest object in the sky, after the sun and moon?

(a) Mercury   (b) Venus   (c) Mars   (d) Jupiter

19. Which part of a cell is responsible for making proteins?

(a) mitochondria   (b) ribosomes   (c) lysosomes   (d) nucleus

20. Which of the following is a unit of power?

(a) newton   (b) watt   (c) joule   (d) ampere

21. Charles Darwin began developing his theory of evolution while voyaging on a ship named:

a) The Enterprise   b) The Beagle   c) The Santa Maria   d) The Endeavour

22. The metal mercury:

a) Is the hardest known metal   b) Is a liquid at room temperature

c) Is highly radioactive   d) Is extensively used in aircraft construction

23. Unlike most other fish, sharks have no:

a) Bones   b) Teeth   c) Gills   d) Liver

24. The seasons are caused by:

(a) change in distance to the Sun

(b) the tilt of the Earth's axis of rotation

(c) the magnetic poles switching direction

(d) the phase of the moon

25. The semipermeable membrane which encloses the cytoplasm of plant and animal cells is called the:

(a) endoplasmic reticulum   (b) nuclear membrane

(c) cell wall   (d) cell membrane

26. Hot molten rock under the surface of the earth is called:

(a) magma   (b) lava   (c) petroleum   (d) geyser

27. A huge ocean wave that may be caused by earthquakes, often under the ocean floor, is called a:

(a) cyclone   (b) magma   (c) tsunami   (d) rip tide

28. The organ that produces insulin for the body is the:

(a) liver   (b) kidney   (c) pancreas   (d) spleen

29. Which of the following is an example of a producer?

(a) mushroom   (b) grass   (c) cow   (d) snake

30. Which of the following clouds might produce rain?

(a) all clouds can produce rain   (b) cirrus

(c) cumulonimbus   (d) cirrostratus

Section-III

This section contains 10 Puzzle type questions.

1) In the Tour de France, what is the position of a rider, after he passes the second placed rider**?**

2) In the forest there is a Deca tree. A Deca tree has 10 trunks, and on each trunk there are 10 branches, and on each branch there are 10 twigs, and on each twig there are 10 leaves. One day a woodcutter came along and cut down one trunk from the tree. Then he cut off one branch from another trunk of the tree. Then he cut off one twig from another branch and finally he pulled one leaf from another twig. How many leaves were left on the tree then?
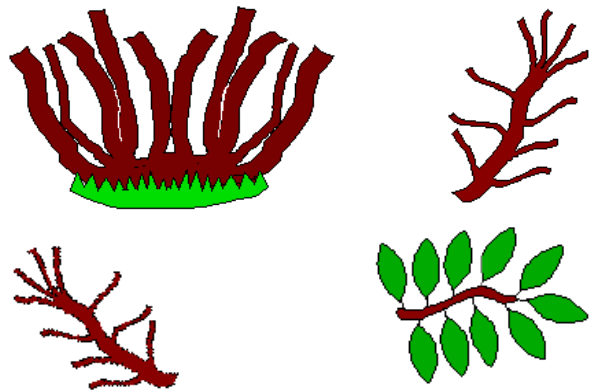
3) A school bus travels from Veldhoven to Roosendaal. There are 4 children in the bus. And each child has 4 backpacks with him. There are 4 dogs sitting in each backpack. And every dog has 4 puppies with her. All these dogs have 4 legs, with 4 toes at each leg. What is the total number of toes in the bus**?**
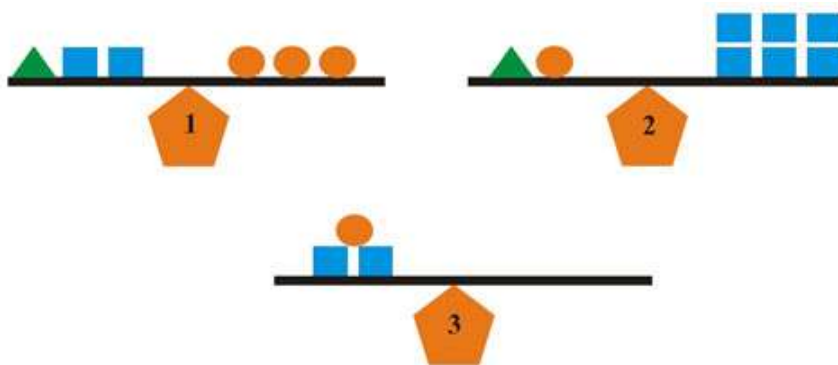
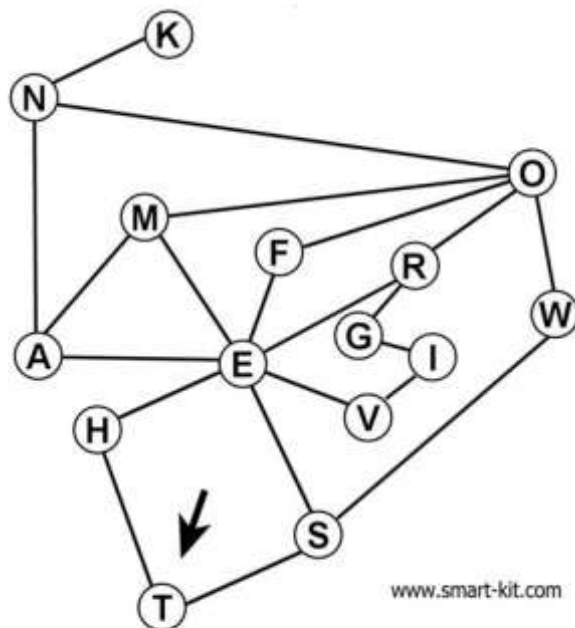4) Find the area of the shaded region if each block has side 1 unit.

Each arc is a semicircle. If you think it is not, examine more carefully. Write the answer as a multiple of pi..
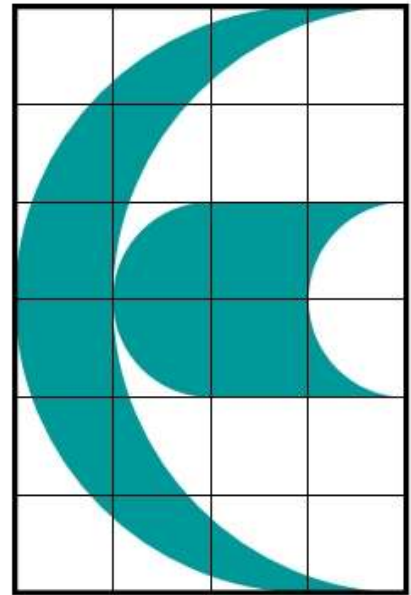
5) How many green triangles are needed to balance the third configuration. The first two are known to be balanced.

6)

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FAMOUS QUOTE:
___ _____ _ ___ _____
___ _____ __ _____.

7) What is hidden in this image?

8) Hundred Square Puzzle

A hundred square has been printed on both sides of a piece of paper.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

One square is directly behind the other. What is on the back of 19?

9) Solve this maze correctly

10)   Point out the mistake