RANKERS
JEE | NEET | FOUNDATION

RGP – RANKERS GENIUS PROGRAM

(Phase - 02)

(SCIENCE, BIO, MAT)

Set

B

Time: 1 Hour	Moving to 11ᵗʰ (BIO)	Marks: 120

1. General Instructions: **(Paper Code: 1104)**

*   * *This test paper consists of 60 questions in 3 sections (A, B, C)*
    Marking Scheme:
    ➢ *Full marks: + 2 if answered correctly.*
    ➢ *Zero marks: 0 if not attempted or incorrect.*

2. RGP College Grant Criteria:
    ✓ **Students must score a minimum of 70% positive marks in RGP.**
    ✓ **Student must get under AIR 5,000 in JEE/NEET Examination.**

3. Cash Reward Criteria:
    ✓ **Exciting Cash Rewards for RGP Toppers**

SENIOR WING (Student's Moving to Class XIᵗʰ, XIIᵗʰ, Dropper JEE /NEET)		JUNIOR WING (Student's Moving to Class IXᵗʰ & Xᵗʰ)	
Overall 1ˢᵗ Topper	₹ 21,000/-	Overall 1ˢᵗ Topper	₹ 5,100/-
Overall 2ⁿᵈ Topper	₹ 11,000/-	Overall 2ⁿᵈ Topper	₹ 3,100/-
Overall 3ʳᵈ Topper	₹ 5,100/-	Overall 3ʳᵈ Topper	₹ 2,100/-
Overall 4ᵗʰ – 8ᵗʰ Topper	₹ 2,100/-	Overall 4ᵗʰ – 8ᵗʰ Topper	₹ 1,100/-
Overall 9ᵗʰ – 15ᵗʰ Topper	₹ 1,100/-	Overall 9ᵗʰ – 15ᵗʰ Topper	₹ 500/-

    ✓ **Candidate who got 1ˢᵗ Rank in junior or senior wing in RGP (Phase – 01) will not be eligible for any cash Reward in RGP (Phase – 02).**

**   ** Rankings from 1 to 20 are determined based on the specific criteria outlined in the FAQ section of our website, www.myrankers.com.**

4. Scholarship Criteria in Rankers Offline Classroom Program:

    ✓ **100% Fee Waiver – Student Scoring 90% and Above**
    ✓ **80% Fee Waiver – Student Scoring 85% to 89.999%**
    ✓ **60% Fee Waiver – Student Scoring 75% to 84.999%**
    ✓ **50% Fee Waiver – Student Scoring 70% to 74.999%**
    ✓ **40% Fee Waiver – Student Scoring 60% to 69.999%**
    ✓ **20% Fee Waiver – Student Scoring 40 % to 59.999%**
    ✓ **10% Fee Waiver – Student Scoring 30% to 39.999%**
    ✓ **5% Fee Waiver – All the Aspirants Appearing in RGP**

RGP RESULT & REWARD CEREMONY

Result Date: 26ᵗʰ March 2025

Check Your Result at: www.myrankers.com

Reward Ceremony Date: 27ᵗʰ March 2025

Student's Name: - …………………………………………………….

SCIENCE (SECTION – A)

1. Which of the following can produced a magnetic field?
   (A) Electric charges at rest
   (B) Electric charges in motion
   (C) Only by permanent magnets
   (D) Electric charges whether at rest or in motion

2. A convex lens is in contact with concave lens. The magnitude of the ratio of their focal length is $\frac{2}{3}$. Their equivalent focal length is 30 cm. What are their individual focal lengths (in cm).
   (A) $-75, +50$ (B) $+10, -15$ (C) $+75, -50$ (D) $-15, -10$

3. Which elements are used for galvanization?
   (A) Zn and Sn   (B) Na and K   (C) Cu and Fe   (D) Ca and Mg

4. Which of these salts will give acidic solution?
   (A) Na_2CO_3 (B) NaCl   (C) NH_4Cl (D) HCOONa

5. Which salts are responsible for yellow colour of Taj Mahal in Agra due to Acid rain:
   (A) $CaCl_2$ and $CaSO_4$
   (B) $Ca(NO_3)_2$ and $CaSO_4$
   (C) $Ca(NO_3)_2$ and $BaSO_4$
   (D) $CaSO_4$ and $BaCl_2$

6. A hydrocarbon 'A' (C_3H_8) on treatment with chlorine in presence of sunlight yielded compound 'B' as major product. Reaction of 'B' with aqueous KOH gave 'C' which on treatment with concentrated H_2SO_4 yielded 'D'. Hydrogenation of 'D' gave back 'A'. The sequence of reactions involved in above conversion is:
   (A) Substitution, Substitution, Addition, Dehydration.
   (B) Substitution, Substitution, Dehydration, Addition.
   (C) Substitution, Dehydration, Addition, Addition.
   (D) Addition, Substitution, Dehydration, Substitution.

--------------------------------------- *Rough Work* ---------------------------------------

7. The current in the adjoining circuit will be-
   (A) $\frac{1}{45}$ A
   (B) $\frac{1}{15}$ A
   (C) $\frac{1}{10}$ A
   (D) $\frac{1}{5}$ A
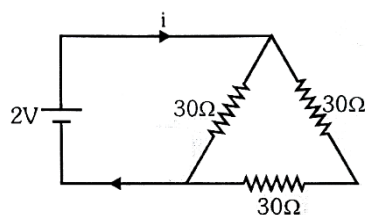
8. 'Lead pencil' contains
   (A) Pb   (B) FeS   (C) Graphite   (D) PbS

9. Which of the following does not give a positive test with alkaline solution of potassium permanganate
   (A) $C_{10}H_{22}$ (B) C_6H_{12} (C) $C_{10}H_{18}$ (D) $C_{10}H_{20}$

10. A constant current I flows in a horizontal wire in the plane of the paper from West to East as shown in the figure. The direction of magnetic field at a point will be South to North
   (A) directly above the wire
    (B) Directly below the wire
    (C) At a point located in the plane of the paper, on the north side of the wire.
    (D) At a point located in the plane of the paper, on the south side of the wire.
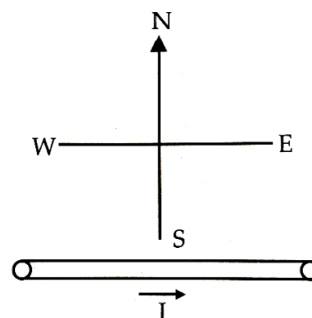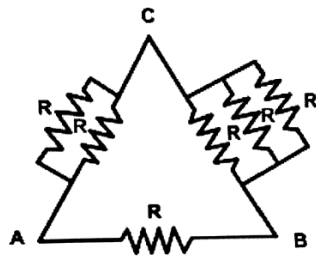

--------------------------------------- *Rough Work* ---------------------------------------

11. For a metallic conductor, current versus voltage graph is drawn at two different temperatures T_1 and T_2. From the graph it follows: -
    (A) $T_1 = T_2$
    (B) $T_1 > T_2$
    (C) $T_1 < T_2$
   (D) None of these
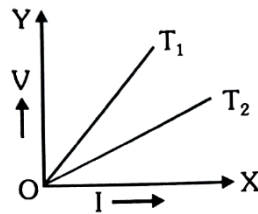
12. Two lamps X and Y connected in series. The lamp X glows lighter than Y. Then
    (A) The resistance of X is greater than the resistance of Y.
    (B) The resistance of X is lesser than the resistance of Y.
    (C) The resistance of X is equal to the resistance of Y.
    (D) There is no relation between the resistances

13. A certain household has consumed 100 units of energy during a November month. Its value in joules will be
    (A) 3.6×10^{10} (B) 3.6×10^{8} (C) 7.2×10^{10} (D) 3.6×10^{6}

14. Six identical resistors connected between points A, B and C as shown in the diagram. The equivalent resistance would be maximum between.

    (A) A & B   (B) B & C
   (C) A & C   (D) All options are correct

-------------------------------------- *Rough Work* --------------------------------------

15. A small pencil of length 10 cm is kept along the axis of a concave mirror of radius of curvature 40 cm with its tip touching the mirror. The size of the pencil's image would appear to be:
    (A) 5 cm   (B) 10 cm   (C) 20 cm   (D) infinite

16. When four equal resistors are connected in series with a battery they dissipate power of 10 W. The power dissipated through any of them if connected across the same battery will be:
    (A) 40 W   (B) 10/3 W   (C) 90 W   (D) 10 W

17. A pin AB of length 2 cm is kept on the axis of a convex lens between 18 cm and 20 cm as shown in figure. Focal length of convex lens is 10 cm. Find magnification produced for the image of the pin.
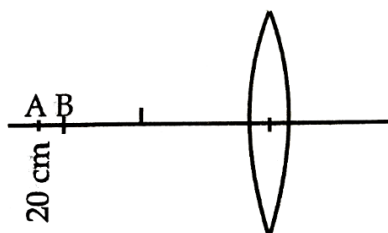
    (A) 0.83   (B) 1.00   (C) 1.25   (D) 6.78

18. In figure a ray of light undergoes refraction from medium A to medium B. It the speed of light in medium A is v, then the speed of light in medium B will be
    (A) $\sqrt{3}v$

   (B) $\frac{v}{\sqrt{3}}$

    (C) $2v$

    (D) $\frac{v}{2}$
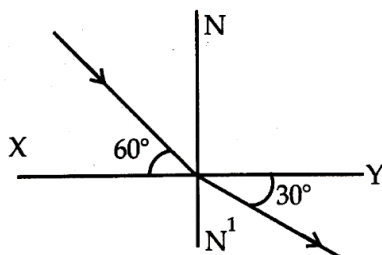
-------------------------------------- *Rough Work* --------------------------------------

19. A heater coil is cut into two equal parts and only one part is used in the heater. The heat generated now will be
    (A) doubled   (B) four times   (C) one fourth   (D) halved

20. To read a poster on a wall, a person with defective vision needs to stand at a distance of 0.4 m from the poster. A person with normal vision can read the poster from a distance of 2.0 m. Which one of the following lens may be used to correct the defective vision?
    (A) A concave lens of 0.5 D   (B) A concave lens of 1.0 D
    (C) A concave lens of 2.0 D   (D) A convex lens of 2.0 D

21. A mirror which can produce a magnification of +1 is
    (A) Convex mirror   (B) Concave mirror
    (C) Plane mirror   (D) Both concave mirror & plane mirror

22. Which chemical substance is added to LPG to help in detection of its leakage?
    (A) Isobutane   (B) Ethanethiol   (C) Propane   (D) Hydrogen sulphide

23. $H_2S(g) + Cl_2(g) \rightarrow 2HCl(g) + S(s)$ The reaction is interpreted as:
    (A) H_2S is getting oxidized and Cl_2 is getting reduced.
    (B) H_2S is getting reduced and Cl_2 is getting oxidized.
    (C) Only H_2S is oxidized.
    (D) Both H_2S and Cl_2 are reduced.

-------------------------------------- *Rough Work* --------------------------------------

24. Consider the given circuit carefully. What do you think would happen if the two copper plates are moved further apart from each other?
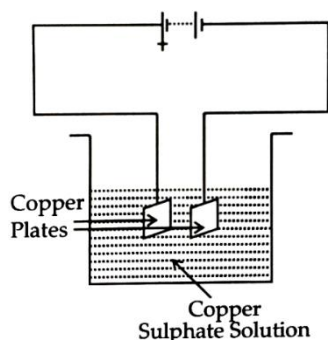
(A) Larger amount of copper will be deposited on the plate connected to the negative electrode.
(B) Smaller amount of copper will be deposited on the plate connected to the negative electrode.
(C) Larger amount of copper will be deposited on the plate connected to the positive electrode.
(D) Smaller amount of copper will be deposited on the plate connected to the positive electrode.

25. A salt can be produced by reaction between
    1. A weak acid and weak base.
    2. Metal oxide and water.
    3. Metal and a mineral acid.
    4. Metal oxide and a mineral acid.
    (A) 1, 2 and 3   (B) 2, 3 and 4   (C) 3, 4 and 1   (D) 4, 1 and 2

26. Which of the following is true about the two statements?
    Statement I: Reactivity of aluminium decreases when it is dipped in nitric acid
    Statement II: A protective layer of aluminium nitrate is formed when aluminium is dipped in nitric acid.
    (A) I is correct but II is incorrect.
    (B) I is incorrect but II is correct.
    (C) Both the statements are correct and II is also the correct explanation of I.
   (D) Both the statements are correct but II is not correct explanation of I.

-------------------------------------- *Rough Work* --------------------------------------

27. Which of the following is a chemical change?
    1. Bubbling of oxygen gas through water.
    2. Burning of wax of a candle.
    3. Emitting of light from an electric bulb on passing electric current.
    4. Passing of carbon dioxide gas through lime water.
    (A) 1 and 3 (B) 3 and 4 (C) 2 and 4 (D) 1 and 4

28. In the balanced chemical equation:
    (a lead nitrated + b aluminium chloride → aluminium c nitrate + d lead chloride)
    Which of the following alternative is correct?
    (A) a = 1, b = 2, c = 2, d = 1 (B) a = 4, b = 3, c = 3, d = 4
    (C) a = 2, b = 3, c = 2, d = 3 (D) a = 3, b = 2, c = 2, d = 3

29. Sulphur powder is heated on a spatula. A piece of both, moist blue and red litmus papers are brought one by one near the gas evolved during heating. The action of gas on the moist litmus papers will be:
    (A) No change in colour in both the litmus papers.
    (B) Blue litmus paper becomes red.
    (C) Red litmus paper becomes blue.
    (D) Blue litmus paper turns black.

30. During preparation of soap, sodium is used for:
    (A) Precipitate the soap (B) Dehydration of soap
    (C) As a catalyst (D) for smoothness of soap

-------------------------------------- *Rough Work* --------------------------------------

BIOLOGY (SECTION – B)

31. Rh factor may be responsible for
    (A) Turner's syndrome
    (B) AIDS
    (C) sickle cell anaemia
    (D) erythroblastosis foetalis

32. Which one of the following is called pace maker of the heart?
    (A) SA node
    (B) AV node
    (C) Chordae tendinae
    (D) AV septum

33. Two bacteria found to be very useful in genetic engineering experiments are
    (A) *Nitrosomonas* and *Klebsiella*
    (B) *Escherichia* and *Agrobacterium*
    (C) *Nitrosomonas* and *Azotobacter*
    (D) *Rhizobium* and *Diplococcus*

34. Enamel covers the
    (A) cementum
    (B) crown of the tooth
    (C) dentin on all sides
    (D) cementum and partly dentin

35. Identify the labelled part of the brain which contain centres for controlling respiration.
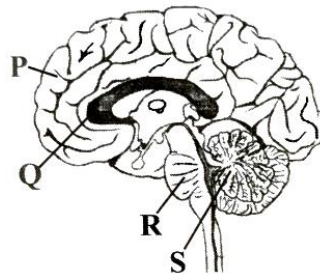
    (A) P
    (B) Q
    (C) S
    (D) R

-------------------------------------- *Rough Work* --------------------------------------

36. For structure of nucleic acid, which of the following statements is wrong?
    (A) DNA can be single stranded in some viruses
    (B) RNA can be double stranded occasionally
    (C) There are as many as 10 bases per turn in B-DNA
    (D) The length of one helix is 45 Å in B-DNA and in Z-DNA

37. Parts A, B, C and D of Nephron are shown in the diagram select the option which is incorrect with it's function
    (A) A – 70–80% water reabsorption
    (B) B – permeable to salts
    (C) C – Selective secretion of H^+ and K^+ ions and maintain pH
    (D) D – allows passage of small amount of urea into the medullary interstitium and help to produce concentrated urine
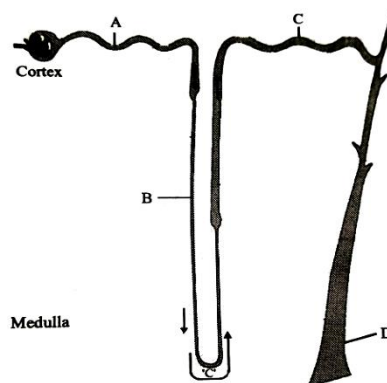
38. Match the item in Column – I with Column – II

Column – I		Column - II	
A.	Plant's excretory material	1.	Tears
B.	Animal's excretory material	2.	Saliva
C.	Plants secretion	3.	Falling of leaves
D.	Animal secretion	4.	Gums

    (A) A-4, B-2, C-1, D-3   (B) A-2, B-1, C-3, D-4
    (C) A-1, B-3, C-2, D-4   (D) A-3, B-1, C-4, D-2

-------------------------------------- *Rough Work* --------------------------------------

39. What do A, B, C and D represent in the given figure?
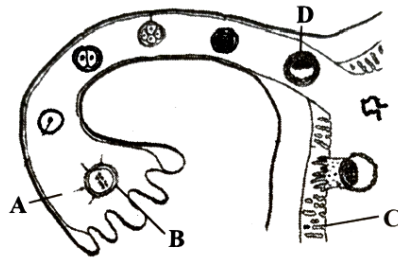
	A	**B**	**C**	**D**
(A)	Infundibulum	Fertilisation	Myometrium	Morula
(B)	Infundibulum	Fertilisation	Endometrium	Blastocyst
(C)	Isthmus	Fertilisation	Myometrium	Blastocyst
(D)	Isthmus	Fertilisation	Endometrium	Morula

40. Which of the following wavelength of light is absorbed maximum for photosynthesis?
(A) Red light   (B) Blue light
(C) Green light   (D) Yellow light

41. A malpighian tubule empties urine into the
(A) gut   (B) coelom   (C) lymph   (D) ureters

42. Dark reaction of photosynthesis occurs in the
(A) Stroma of the chloroplast outside the lamellae
(B) Space between the two membranes of the chloroplast
(C) Membranes of the stroma lamellae
(D) Thylakoid membrane of the grana

-------------------------------------- *Rough Work* --------------------------------------

43. Mendel crossed a pure white-flowered recessive pea plant with a dominant pure red-flowered plant. The first generation of hybrids from the cross should show
    (A) Fifty per cent white flowers and fifty per cent red flowers
    (B) All red flowered plants
    (C) Seventy-five per cent red flowered and twenty-five per cent white flowered plants.
    (D) All white flowered plants

44. Patients who excrete large quantities of sodium in the urine have:
    (A) Diseased adrenal medulla
    (B) Defective cells lining the villi of ileum that fail to reabsorb Na^+
    (C) Diseased adrenal cortex
    (D) Erratic renal threshold for Na^+

45. A substance produced in liver which prevents the freezing of blood is called
    (A) ptylin   (B) heparin   (C) trypsin   (D) insulin

-------------------------------------- *Rough Work* --------------------------------------

MAT (SECTION – C)

46. In a code language, DEFENCE is written as CDEDMBD, then in the same language, NEED will be written as
(A) MDDC
(B) ULDG
(C) MCCD
(D) MCDC

47. A clock gains 15 minutes every day. If it is corrected at 12 O'clock in the afternoon, then what time will it show at 4 O'clock in the morning?
(A) 4 : 10
(B) 4 : 15
(C) 4 : 20
(D) 4 : 30

48. If '$\times$' means 'sum', '$-$' means 'division', '$\div$' means 'subtract' and '$+$' means multiplication, then which of the following equations is true?
(A) $16 + 5 - 10 \times 4 \div 3 = 9$
(B) $16 - 5 \times 10 \div 4 + 3 = 52$
(C) $16 + 5 \div 10 \times 4 - 3 = 9$
(D) $16 \times 5 \div 10 + 4 - 3 = 9$

49. Each of the following questions consists of four figures that form a series. Select a figure from the answer which will continue the same series as established by the four given figures.


(A)   (B)   (C)   (D)
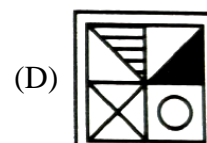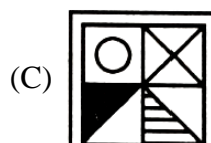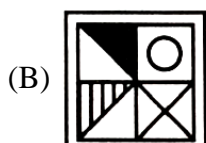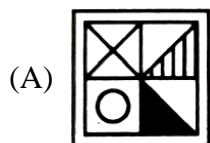
-------------------------------------- *Rough Work* --------------------------------------

50. If the numerator of a fraction is increased by 240% and the denominator of the fraction is decreased by 50%, the resultant fraction is $2\frac{5}{6}$. What is the original fraction?

    (A) $\frac{1}{4}$ (B) $\frac{2}{3}$ (C) $\frac{5}{12}$ (D) $\frac{4}{11}$

51. Complete the following number/letter series by choosing the correct answer from the given alternatives.
    1, 4, 5, 10, 17, 28, 53, ?, ?
    (A) 58, 64   (B) 64, 93   (C) 78, 118   (D) 82, 161

52. On a table, the books of Physics, Mathematics, English and Hindi are arranged in such a way that the book of Hindi is just above the book of English and the book of Mathematics is just below that book of Physics. If the book of Physics is just kept below the book of English then which book is kept bottommost?
    (A) Physics   (B) English   (C) Mathematics   (D) Hindi

53. If it was Saturday on 17th December, 2002, then what was the day on 22nd December, 2004?
    (A) Monday   (B) Sunday   (C) Friday   (D) Tuesday

-------------------------------------- *Rough Work* --------------------------------------

54. Select the figure from amongst the four alternatives which when placed in the blank space, would complete the pattern.

(A)   (B)   (C)   (D)
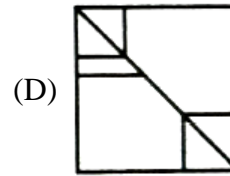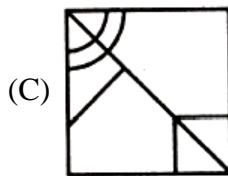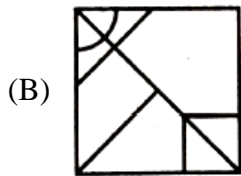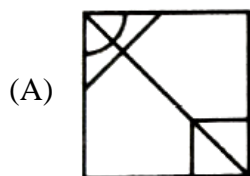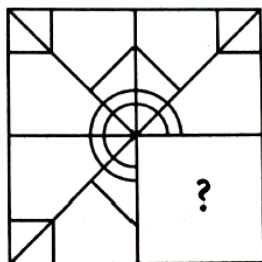
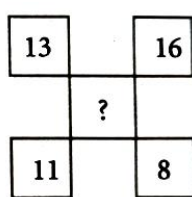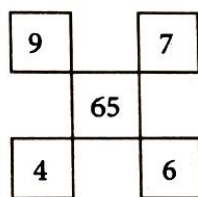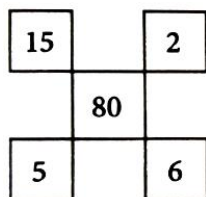55. Which set of number is like the given set?
(80, 60, 45)
(A) (16, 12, 9)   (B) (16, 12, 5)   (C) (20, 15, 11)   (D) (160, 120, 180)

56. Find the missing character (?) in the following figures such that it follows rule.

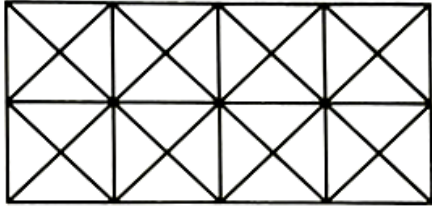| 15		2
	80	
5		6

9		7
	65	
4		6

13		16
	?	
11		8

(A) 48   (B) 72   (C) 35   (D) 120

-------------------------------------- *Rough Work* --------------------------------------

57. In a queue, Suneeta is at the tenth place from front. Subhash is at 25th place from behind. Gargi is standing at the central place between Suneeta and Subhash. There are 50 persons in the queue. Then Gargi is standing at which place from front?
(A) 20   (B) 19   (C) 18   (D) 17

58. How many squares are there in the given figure?

(A) 11   (B) 21   (C) 24   (D) 26

59. Darshan walked 4 meters in East, then he turned right and walked 7 meters, then he turned left and walked 5 meters again he turned left and walked 7 meters. Then finally before stopping he turned right and walked 3 meters. How far is Darshan from his initial point?
(A) 10 meter   (B) 11 meter   (C) 12 meter   (D) 13 meter

60. A person was watching a photo, He said : 'I had neither brother nor sister but this person's father is the only son of my grand father'. Then whose photo was that person was watching?
(A) His son   (B) His father   (C) Himself   (D) His uncle

-------------------------------------- *Rough Work* --------------------------------------