THE RADIANT ACADEMY®

Igniting Young Minds

ACADEMIC SESSION : 2026-27

CLASS : XI

(NEET)2028

SAMPLE PAPER

DURATION: 1.5 HOURS **MAX. MARKS : 210**

R-SAT

Radiant Scholarship cum Admission Test

Note : Make sure that you have filled your Class-X (Science + Mathematics) % , Mobile No., Medium of Study, Date of Birth, Category, NTSE Level, Board of the School you have appeared from Class-X and Choice of Study Centre in Objective Response Sheet (ORS).

CANDIDATE NAME :	APPLICATION FORM NUMBER

PLEASE READ THE NEXT PAGE OF THIS BOOKLET FOR THE INSTRUCTIONS.

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IMPORTANT INSTRUCTIONS

1. This booklet is your Question Paper.
2. Blank papers, clip boards, log tables, slide rule, calculators, mobile or any other electronic gadgets in any form are not allowed to be used.
3. Write your **Name** & **Application Form Number** in the space provided in the first page of this booklet.
4. No rough sheets will be provided by the invigilators. All the rough work is to be done in the blank space provided in the question paper.
5. No query related to question paper of any type is to be put to the invigilator.

INSTRUCTIONS FOR OPTICAL RESPONSE SHEET (ORS)

- Darken the appropriate bubbles on the original by applying sufficient pressure (BUBBLES)
- The original is machine-gradable and will be collected by the invigilator at the end of the examination.
- Do not tamper with or mutilate the ORS.
- Write your name, Application form number and the name of the examination centre and sign with pen in the space provided for this purpose on the original. **Do not write any of these details anywhere else**. Darken the appropriate bubble under each digit of your roll number.
- Before answering the paper, fill up the required details in the blank space provided in the Objective Response Sheet (ORS).
- Do not forget to mention your paper code and **Application Form Number** neatly and clearly in the blank space provided in the Objective Response Sheet (ORS) / Answer Sheet. ¼ORS
- Use a **BLACK BALL POINT** to darken the bubbles in the upper sheet.
- Darken the bubble **COMPLETELY.**
- Darken the bubble **ONLY** if you are sure of the answer.
- The correct way of darkening a bubble is as shown here ●
- There is **NO** way to erase or "un-darkened bubble.
- The marking scheme given at the beginning of each section gives details of how darkened and **not darkened** bubbles are evaluated. **Marks distribution of questions is as follows.**

S.No.	Subject	Nature of Questions	Marks to be awarded			
			No. of Questions	Correct	Wrong	Total
1 to 30	**PART-I (Biology)**	Single Choice Questions (SCQ)	30	3	0	90
31 to 45	**PART-II (Physics)**	Single Choice Questions (SCQ)	15	3	0	45
46 to 60	**PART-III (Chemistry)**	Single Choice Questions (SCQ)	15	3	0	45
61 to 70	**PART-IV (Mental Ability)**	Single Choice Questions (SCQ)	10	3	0	30

Zero marks '0' If none of the options is chosen (i.e. the question is unanswered).

PART – I

SECTION : (Maximum Marks : 90)

- This section contains **THIRTY (30)** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct
- Marking scheme:
  +3 for correct answer
  0 In all other cases

1. During meiosis, crossing over (gene exchange between chromosomes) may occur, crossing over usually results in
(A) Fertilization and development (B) The formation of identical offspring
(C) Variation within the species (D) Over production of gametes

2. When the effects of both alleles are equally expressed in the heterozygote which one of the following occurs?
(A) Segregation (B) Codominance (C) Pleiotropy (D) Incomplete dominance

3. The assumption that life comes only from pre-existing life is called
(A) Biogenesis (B) Neogenesis (C) Organogenesis (D) Oogenesis

4. Which principle was given by Darwin?
(A) Inheritance of acquired character (B) Germplasm theory
(C) Mutation theory (D) Theory of natural selection

5. Evidenceofevolutionary relationships is found in ____
(A) Atmosphere (B) Fossils (C) Ocean beds (D) Rocks

6. The component of a chromosome that controls heredity is
(A) DNA (B) RNA (C) Histones (D) Proteins

7. Select the group which shares maximum no. of common characters
(A) Two individuals of species (B) Two species of a genius
(C) Two genera of a family (D) Two genera of two families

8. Test cross is a cross between?
(A) Hybrid X Hybrid parent (B) Hybrid X Recessive parent
(C) Hybrid X Dominant parent (D) Two distantly related species

9. Disease resistant varieties can be produced by
(A) Crossing a plant with wild variety (B) treating with colchicines
(C) crossing with hormones (D) treating with low temperature

10. Allel is the
(A) alternate trait of a gene pair (B) total number of genes for a trait
(C) total number of chromosomes of haploid set (D) total number of genes present a chromosome

11. Plants having similar genotypes produced by plant breeding are called
(A) Clone (B) haploid (C) autopolyploid (D) genome

12. Guanine pairs with
(A) Adenine (B) Cytosine (C) Thymine (D) None of these

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13. The concentration of urea is least in:
(A) Renal artery (B) Renal vein (C) Post canal (D) Dorsal aorta

14. Blood is composed of _____
(A) Plasma and red blood cells
(B) Plasma and formed elements
(C) Red and white blood cells
(D) Red blood cells, white blood cells and platelets

15. Stomata are present on the _____ of the leaves.
(A) Upper surface only (B) Lower surface only
(C) Mostly upper surface (D) Mostly lower surface

16. The ascent of sap in plants takes place due to _____
(A) Root pressure (B) Transpiration pull (C) Both (a) and (b) (D) Osmosis

17. _____ carries oxygenated bloo(d)
(A) Pulmonary artery (B) Hepatic portal vein (C) Pulmonary vein (D) All of the above

18. The main cells present in lymph are _____
(A) Red blood cells (B) Platelets (C) Lymphocytes (D) Monocytes

19. The numbers of ATP molecules produced during aerobic and anaerobic respiration are _____ and _____ respectively.
(A) 2 and 38 (B) 0 and 2 (C) 38 and 0 (D) 38 and 2

20. Respiratory surface should he _____
(A) Permeable (B) Thin
(C) Richly supplied with blood vessels (D) All of the above

21. Sneezing can be best described as _____
(A) Forceful sudden expiration
(B) Jerky incomplete inspiration
(C) Vibration of the soft palate during breathing while sleeping
(D) Something you should never do when someone is going out

22. In the lunch, you ate boiled green vegetables, a piece of cooked meat, one boiled egg and a sugar candy. Which one of these foods may have been digested first?
(A) Boiled green vegetables (B) The piece of cooked meat (C) Boiled egg (D) Sugar candy

23. In mitochondrion, the proton gradient required ATP synthesis develops across
(A) Inner membrane (B) Inter-membrane space (C) Outer membrane (D) F_0 –F_1 particles

24. Bicuspid and tricuspid valves are open during:
(A) Ventricular systole (B) Ventricular diastole (C) Atrial systole (D) Late joint diastole

25. Typical 'lubb-dupp' sounds heard during heartbeat are due to:
(A) Closing of bicuspid and tricupid valves
(B) Closing of semi luna valves
(C) Blood under pressure through aorta
(D) Closure of bicuspid-tricuspid valves followed by semilunar valves

26. In adult man, normal BP is :
(a) 100/80 mm Hg (B) 120/80 mm Hg (C) 100/120 mm Hg (D) 80/120 mm Hg 15

27. Polycythemia is-
(a) Increased RBCs count (B) Decreased WBCs count
(C) Increased WBCs count (D) Decreased platelets count

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28. The coagulation of blood occurs due to
(A) Change of fibrinogen in the network of fibre (B) Destruction of erythrocytes
(C) Destruction of leucocytes (D) Formation of serum.

29. William Harvey is known for discovery of
(a) Blood circulation (B) Blood clotting (c) Respiration (D) Digestion

30. Cardiac cycle in man takes about
(A) 0.5 seconds (B) 1.0 seconds (C) 1.2 seconds (D) 0.8 seconds

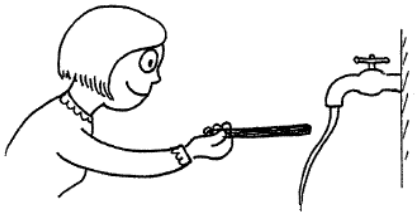
PART – II

SECTION : (Maximum Marks : 45)

- This section contains **FIFTEEN (15)** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct
- Marking scheme:
  +3 for correct answer
  0 In all other cases

31. A thin rod of length $\frac{f}{3}$ is placed along the principal axis of a concave mirror of focal length f such that its image which is real and elongated, just touches the rod. Length of the image is :
(A) $\frac{f}{3}$ (B) $\frac{f}{2}$ (C) 2f (D) None of these

32. In normal cases, thin stream of water bends toward a negatively charged rod. When a positively charged rod is placed near the stream, it will bend in the :



(A) Opposite direction (B) Same direction
(C) It won't bend at all (D) Can't be predicted

33. The gravitational force between two point masses m_1 and m_2 at separation *r* is given by $F = k\frac{m_1 m_2}{r^2}$.
The constant *k*
(A) Depends on system of units only
(B) Depends on medium between masses only
(C) Depends on both (A) and (B)
(D) Is independent of both (A) and (B)

34. The fraction of a floating object of volume V_0 and density d_0 above the surface of a liquid of density d will be
(A) $\frac{d_0}{d}$ (B) $\frac{dd_0}{d+d_0}$ (C) $\frac{d-d_0}{d}$ (D) $\frac{dd_0}{d-d_0}$

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35. For a system of particles the following two statements are possible :
Statement-(i): Kinetic energy of system is zero
Statement-(ii): The linear momentum of the system is zero.
Then :
(A) Statement (i) implies statement (ii) and statement (ii) implies statement (i)
(B) Neither statement (i) implies statement (ii), nor statement (ii) implies statement (i)
(C) Statement (i) implies statement (ii), but statement (ii) does not implies statement (i)
(D) Statement (ii) implies statement (i), but statement (i) does not implies statement (ii)

36. In a sinusoidal wave, the time required for a particular point to move from maximum displacement to zero displacement is 0.170 second. The frequency of the wave is
(A) 1.47 *Hz* (B) 0.36 *Hz* (C) 0.73 *Hz* (D) 2.94 *Hz*

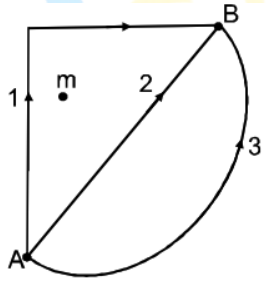
37. Loss of the ability of eye to focus on near and far objects with advancing age is called :
(A) Presbyopia (B) Astigmatism (C) Hypermetropia (D) Myopia

38. A small ball of relative density 0.8 falls into water from a height of 2 m. The depth to which the ball will sink is (neglect viscous forces) :
(A) 8 m (B) 2 m (C) 6 m (D) 4 m

39. Two planets have the same average density but their radii are R_1 and R_2. If acceleration due to gravity on these planets be g_1 and g_2 respectively, then
(A) $\frac{g_1}{g_2}=\frac{R_1}{R_2}$ (B) $\frac{g_1}{g_2}=\frac{R_2}{R_1}$ (C) $\frac{g_1}{g_2}=\frac{R_1^2}{R_2^2}$ (D) $\frac{g_1}{g_2}=\frac{R_1^3}{R_2^3}$

40. A beaker containing a liquid is kept inside a big closed jar. If the air inside the jar is continuously pumped out, the pressure in the liquid near the bottom of the liquid will
(A) Increases (B) Decreases
(C) Remain constant (D) First decrease and then increase

41. If W_1, W_2 and W_3 represent the work done in moving a particle from A to B along three different paths 1, 2 and 3 respectively (as shown) in the gravitational field of a point mass m, find the correct relation between W_1, W_2 and W_3 :



(A) $W_1 > W_2 > W_3$ (B) $W_1 = W_2 = W_3$ (C) $W_1 < W_2 < W_3$ (D) $W_2 > W_1 > W_3$

42. The echo of a gunshot is heard 8 sec. after the gun is fired. How far from him is the surface that reflects the sound (velocity of sound in air = 350 *m/s*)
(A) 1400 *m* (B) 2800 *m* (C) 700 *m* (D) 350 *m*

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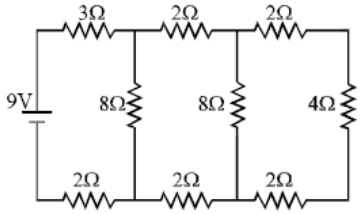
43. In the circuit shown in the figure, the current through battery is :



(A) 3 A (B) 2 A (C) 1 A (D) None of these

44. A transmission line carries current in east to west direction. The direction of magnetic field above the wire is :
(A) towards east (B) towards west
(C) towards north (D) towards south

45. Two identical solid copper spheres of radius R placed in contact with each other. The gravitational attraction between them is proportional to
(A) R^2 (B) R^{-2} (C) R^4 (D) R^{-4}

PART – III

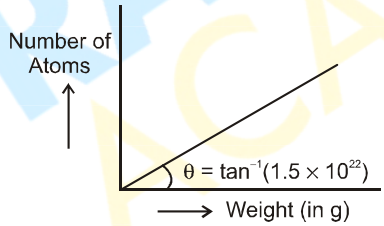
SECTION : (Maximum Marks : 45)

- This section contains **FIFTEEN (15)** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct
- Marking scheme:
  +3 for correct answer
  0 In all other cases

46. An example of sublimating substance is
(A) sodium chloride (B) ammonium chloride (C) copper chloride (D) silver chloride

47. Soap solution is an example of
(A) sol (B) foam (C) emulsion (D) gel

48. A graph is plotted for different samples of an element, by taking its weight (in gram) on X-axis and number of atoms present on Y-axis. Determine the atomic weight of element (in u). ($N_A = 6.0 \times 10^{23}$)



(A) 20 u (B) 40 u (C) 60 u (D) 80 u

49. During Rutherford's experiment most of the alpha particles passed through the gold foil undeviated. This clearly proves that
(A) Alpha-particles move in a straight line
(B) Alpha-particles are not electrically charged
(C) Most of the space inside the atom is empty and the nucleus is very small in size
(D) Atom is very large in size

50. Rate of evaporation is the highest in
(A) open vessel (B) Closed vessel (C) both (A) & (B) (D) can't say

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51. To check whether a given aqueous salt solution is saturated or unsaturated, we will
(A) heat the solution (B) cool the solution
(C) add more water to the solution (D) add more salt to the solution

52. Which of the following sample must have average molar mass greater than that of a mixture of N_2 and CO_2?
(A) Mixture of H_2 and SO_3 (B) Mixture of CH_4 & SO_3
(C) Mixture of SO_2 and SO_3 (D) None of these

53. Aluminum has atomic number 13, its valency and number of valence electrons are respectively
(A) +3 and 3 (B) – 3 and 3 (C) +3 and 13 (D) 13 and 3

54. On increasing the temperature of solids
(A) the particles stays still
(B) the particles start vibrating but with no motion
(C) the particles start vibrating with lesser speed
(D) the particles start vibrating with greater speed

55. Separation of cream from milk is done by
(A) Filteration (B) Centrifugation machine
(C) Evaporation (D) Condensation

56. An element X of valency 3 combines with another element Y of valency 2. The molecular formula of the formed compound is
(A) X_4Y_6 (B) X_6Y_4 (C) X_3Y_2 (D) X_2Y_3

57. What is the correct IUPAC name of acetonitrile?
(A) Ethanenitrile (B) Cyanomethane
(C) Methanenitrile (D) Cyanoethane

58. How many structural chlorobutene are possible?
(A) Five (B) six (C) Seven (D) Four

59. Solvent in air is
(A) nitrogen (B) oxygen (C) carbon dioxide (D) argon

60. Which of the following is position isomers of Resorcinol?
(A) o–Cresol (B) Anisol (C) Catechol (D) Phenol

PART – IV

SECTION : (Maximum Marks : 30)

- This section contains **TEN (10)** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct
- Marking scheme:
  +3 for correct answer
  0 In all other cases

Direction (61 to 63) Find the missing term.

61. 4, 9, 19, ?, 79, 159
(A) 35 (B) 39 (C) 30 (D) 49

62. AGM, EKQ, IOU, ? , UAG
(A) AHU (B) BIN (C) MJY (D) OUA

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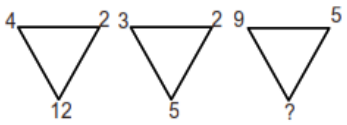
63. 

(A) 56 (B) 46 (C) 36 (D) 26

64. If **ENGLISH** is coded as **FMHKJRI**, then **PHYSICS** is

(A) QGTZBJI (B) QGTZRBJ (C) QGZTBRJ (D) QGZRJBT

Directions (85) : Eleven friends M,N,O,P,Q,R,S,T,U,V and W are sitting in a first row of the stadium watching a cricket match.
(i) T is to the immediate left of P and 3rd right to U.
(ii) V is the immediate neighbor of M and N and 3rd left of S.
(iii) M is second to the right of Q, who is at one of the end.
(iv) R is sitting next to the right of P and P is second to the right of O.

65. Who is sitting in the center of the row ?

(A) N (B) O (C) S (D) U

Directions (66) : In the question below are given two statements followed by two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusion and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

66. Statements : All Bikes are scooters. No Scooter is old.
Conclusions : I. No Bike is old II. Some Scooters are Bike.
(A) if only conclusion I follows
(B) if only conclusion II follows
(C) if neither conclusion I nor II follows
(D) if both conclusions I and II follow.

Directions : (67) Answer the questions based on the given information.
(i) Bhuvnesh and Ekta l ikes Hockey and Cricket.
(ii) Aman and Bhuvnesh likes Cricket and Polo.
(iii) Aman , Dinesh and Charu likes Polo and Football.
(iv) Charu and Aman likes Polo and Tennis.
(v) Dinesh and Ekta likes Football and Hockey.

67. Who likes Polo, Football and Hockey ?

(A) Aman (B) Bhuvnesh (C) Dinesh (D) Ekta

68. If the first day of a leap year is Tuesday then what day will be on first day of next year ?

(A) Wednesday (B) Thursday (C) Friday (D) Saturday

69. Which alphabet is opposite to W?

(A) V (B) X (C) T (D) Y

Direction (70) Find the missing term.

70. 26, 34, 41, 46, 56 , 67 , ?

(A) 70 (B) 71 (C) 80 (D) 81

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CLASS : XI
TARGET : (NEET)
SAMPLE PAPER

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	C	B	A	D	B	A	A	B	A	A	A	B	B	B	D
Ques.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	C	C	C	D	D	A	D	B	C	D	B	A	A	A	D
Ques.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	B	B	A	C	C	A	A	A	A	B	B	A	C	C	C
Ques.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	B	A	B	C	A	D	C	A	D	B	D	A	B	A	C
Ques.	61	62	63	64	65	66	67	68	69	70					
Ans.	B	D	A	D	D	D	C	B	A	C					