

Academic Session: 2021-22

ResoNET 2021

SAMPLE PAPER

(Resonance National Entrance Test for Admission in PCCP Classroom Contact Programmes-PCCPs)

**FOR STUDENTS MOVING IN CLAS- IX(WISDOM) IN 2021-2022
(PRESENTLY STUDYING IN CLASS - VIII IN 2020-2021)**

COURSE NAME : PIONEER/WISDOM

COURSE CODE : PY/JNN

Duration: 1 Hours | Max. Marks: 210



Name : _____

Application Form Number : _____

Please read the next & last page of this booklet for the instructions.

Resonance Eduventures Limited

REGISTERED & CORPORATE OFFICE : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph.No. : 0744-2777777, 0744-2777700 | **Toll Free :** 1800 258 5555 | **FAX No. :** +91-022-39167222 | 73400 10333

Website : www.resonance.ac.in | **E-mail :** contact@resonance.ac.in | **CIN:** U80302RJ2007PLC024029

IMPORTANT INSTRUCTIONS

GENERAL 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.
- 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.
- 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.

Reso NET 2021-22

S.No.	Subject	Nature of Questions	Marks to be awarded			
			No. of Questions	Correct	Wrong	Total
1 to 25	PART-I (Maths)	Single Choice Questions (SCQ)	25	3	0	75
26 to 35	PART-II (Physics)	Single Choice Questions (SCQ)	10	3	0	30
36 to 45	PART-III (Chemistry)	Single Choice Questions (SCQ)	10	3	0	30
46 to 55	PART-IV (Biology)	Single Choice Questions (SCQ)	10	3	0	30
56 to 70	PART-V (Mental Ability)	Single Choice Questions (SCQ)	15	3	0	45
		Total	70			210

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

1. MATHEMATICS

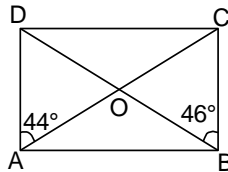
Straight Objective Type

This section contains 25 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

- On subtracting the reciprocal of $\frac{5}{7}$ from the additive inverse of $\left(\frac{-3}{4}\right)$ we get
(A) $\frac{11}{20}$ (B) $\frac{13}{20}$ (C) $\frac{-11}{20}$ (D) $\frac{-13}{20}$
- If $\sqrt{x} + \sqrt{49} = 8.2$, then the value of x is
(A) 1.20 (B) 1.40 (C) 1.44 (D) 1.89
- The smallest number by which 2560 must be multiplied so that the product is a perfect cube is
(A) 25. (B) 15. (C) 10. (D) 5.
- If the ratio of two sides of a parallelogram is 4:5 and its perimeter is 90 cm, its sides are
(A) 5 cm and 18 cm. (B) 20 cm and 25 cm. (C) 25 cm and 20 cm. (D) 40 cm and 50 cm.
- The simplified form of $(a^2 - 5)(a + 5) + 25$ is
(A) $a^3 + 5a^2 - 5a$. (B) $a^3 - 5a^2 - 5a$. (C) $a^3 + 5a^2 - 5a + 25$. (D) $a^3 - 5a^2 - 5a + 25$.
- If $xy = b$ and $\frac{1}{x^2} + \frac{1}{y^2} = a$, then $(x + y)^2$ equals
(A) $(a + 2b)^2$ (B) $a^2 + b^2$ (C) $b(ab + 2)$ (D) $\frac{1}{a} + 2b$
- The solution of the equation $\frac{6x+7}{3x+2} = \frac{4x+5}{2x+3}$ is
(A) $-\frac{11}{9}$ (B) $-\frac{13}{4}$ (C) $-\frac{9}{14}$ (D) $-\frac{2}{13}$
- The value of $\frac{1}{2} \div \left(\frac{1}{3} \div \frac{2}{5}\right)$ is
(A) $-\frac{5}{3}$ (B) $-\frac{3}{5}$ (C) $-\frac{5}{12}$ (D) $\frac{3}{5}$
- 25 times the square of 125 is same as
(A) square of 625. (B) 5 times the square of 25.
(C) 125 times the square of 25. (D) 25 times the square of 5.
- Cube of an even number
(A) is always even. (B) is always odd.
(C) is sometimes even and sometimes odd. (D) always end with 0

Space for Rough Work

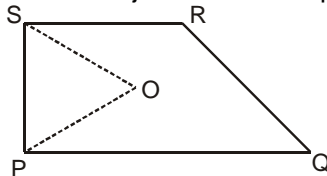
11. In parallelogram ABCD, $\angle DAC = 44^\circ$ and $\angle CBD = 46^\circ$ then $\angle AOB =$:



- (A) 5 (B) 0 (C) 30 (A) 80° (B) 90°
12. What is the value of $3(x^2 - 4x)$ when $x = 4$?
(D) 55
13. The value of the expression $(9x^2 + 24x + 16)$, when $x = 12$ is
(A) 1600 (B) 1500 (C) 1400 (D) 1300
14. If $3\frac{1}{x} \times 3\frac{3}{4} = 12\frac{1}{2}$, then the value of 'x' is:
(A) 1 (B) 4 (C) 2 (D) 3
15. Which of the following is ascending order of $\frac{3}{5}, \frac{17}{30}$ and $\frac{8}{15}$
(A) $\frac{8}{15}, \frac{17}{30}, \frac{3}{5}$ (B) $\frac{8}{15}, \frac{3}{5}, \frac{17}{30}$ (C) $\frac{3}{5}, \frac{8}{15}, \frac{17}{30}$ (D) $\frac{3}{5}, \frac{17}{30}, \frac{8}{15}$
16. The value of $\sqrt{214 + \sqrt{130 - \sqrt{88 - \sqrt{44 + \sqrt{25}}}}}$:
(A) 14 (B) 15 (C) 16 (D) 17
17. The volume of a cubical box is 1331 cubic meter, then the length of a side of the box is
(A) 11 m. (B) 21 m. (C) 31 m. (D) 41 m.
18. The exterior angle of a regular polygon is one-third of its interior angle. How many sides has polygon :
(A) 5 (B) 6 (C) 7 (D) 8
19. Subtract $3ab(a - b)$ from $2ab(a + b)$
(A) $5ab^2 - a^2b$ (B) $a^2b + 5ab^2$ (C) $a^2b^2 - ab$ (D) $ab^2 + 5$
20. If $\left(x + \frac{1}{x}\right) = 4$, find the value of $\left(x^2 + \frac{1}{x^2}\right)$
(A) 13 (B) 14 (C) 16 (D) 17
21. Given that $\frac{-6P - 9}{3} = \frac{2P + 9}{5}$, find the value of P.
(A) -4 (B) -2 (C) 3 (D) 5

Space for Rough Work

22. What number should be subtracted from -5 to get $\frac{8}{9}$.
- (A) $\frac{-53}{9}$ (B) $\frac{37}{9}$ (C) $\frac{9}{37}$ (D) $\frac{-9}{37}$
23. The square root of 102 up to three places of decimal is
 (A) 10.098 (B) 10.099 (C) 10.097 (D) 10.096
24. Cube root of a number when divided by 11 gives 22. The number is:
 (A) 242^3 . (B) 124^3 . (C) 22^3 . (D) 11^3 .
25. In the fig. SO and PO are bisectors of two adjacent sides of quadrilateral, $\angle Q + \angle R$ is :



- (A) $2 \angle SOP$ (B) $\angle OSP + \angle OPS$ (C) $\angle SOP$ (D) $2 (\angle OSP + \angle OPS)$

2. PHYSICS

Straight Objective Type

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

26. A minus sign of force implies that the
 (A) force is exerted on some other object.
 (B) force is in opposite direction to that of the motion.
 (C) force is in the same direction to that of the motion.
 (D) gravitational force is acting on the object.
27. The force of 20 N is acting on 5 square metre. If the area is reduced to half, the pressure becomes
 (A) twice the original value. (B) thrice the original value.
 (C) half the original value. (D) one-fourth the original value
28. The use of ball bearings between the hubs and the axles of bicycles is an example of
 (A) static friction. (B) sliding friction. (C) rolling friction. (D) fluid friction.
29. If a pendulum vibrates 50 oscillations in 5 seconds, its frequency is
 (A) 5 Hz. (B) 10 Hz. (C) 15 Hz. (D) 50 Hz.
30. Relation between the gravitational unit and S.I. unit of force is
 (A) $1 \text{ N} = 1 \text{ kgf}$ (B) $1 \text{ N} = 9.8 \text{ kgf}$ (C) $9.8 \text{ N} = 1 \text{ kgf}$ (D) $9.8 \text{ N} = 9.8 \text{ kgf}$

Space for Rough Work

31. Pressure is directly proportional to:
(A) force. (B) volume. (C) thickness. (D) area.
32. The brake system of cars and bicycles are provided with
(A) ordinary rubbers. (B) brake pads.
(C) wooden pads. (D) plastic sheets.
33. Sound is produced when objects
(A) rotate. (B) vibrate. (C) circulate. (D) move linearly.
34. A fish can easily swim in water due to
(A) the slipperiness of water. (B) its streamlined body.
(C) its great speed. (D) zero friction.
35. The section of human throat which produces voice is the
(A) wind pipe. (B) voice box. (C) throat. (D) lungs.

3. CHEMISTRY

Straight Objective Type

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

36. Polyester is made of repeating units of chemical called as
(A) Ethylene glycol (B) Ester (C) Terephthalic acid. (D) Acrylonitrile.
37. Which among the following metals can be cut with a knife ?
(A) Sodium (B) Copper (C) Aluminium (D) Iron
38. Non-stick cookwares have the coating of
(A) PETE (B) HDPE (C) PTFE (D) PEFE
39. The metal which cannot displace hydrogen from an acid is -
(A) copper (B) zinc (C) magnesium (D) aluminium
40. Which of the following does not contain a polyester fabric?
(A) Terylene (B) Styrene (C) Terrycot (D) Terrywool
41. The best conductor of heat is :
(A) silver (B) gold (C) copper (D) lead
42. Plastic containers are preferred over iron containers for storing food because, plastic is :
(A) colourful (B) non-reactive (C) non-sonorous (D) None of these
43. The metal which exists as a liquid at room temperature is -
(A) Al (B) Na (C) Hg (D) K

Space for Rough Work



44. Handles of sauce pan are made of
(A) Thermoplastics (B) Thermosetting plastics.
(C) Koroseal (D) Both (B) & (C).
45. Which is the correct order of decreasing reactivity in metals ?
(A) $K > Na > Cu > Au$ (B) $Na > Au > Cu > K$
(C) $Cu > Na > K > Au$ (D) $Au > Cu > Na > K$

4. BIOLOGY

Straight Objective Type

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

46. Examples of macronutrients found in soil are :
(A) N, P, B (B) N, P, K (C) N, P, Zn (D) N, P, V
47. Bacteria cannot survive in a highly salted pickle because :
(A) salts inhibit reproduction
(B) bacteria do not get enough light for photosynthesis
(C) they become plasmolysed and consequently killed
(D) the pickle does not contain nutrients necessary for bacteria to live
48. What is most effective way to conserve plant diversity of an area?
(A) Tissue culture (B) zoological garden
(C) Biosphere reserves (D) Seed banks
49. In a biology lecture, the teacher was dictating the organelles of a cell as endoplasmic reticulum, mitochondria, nucleus, ribosome, centriole and centrosome. Which cell was she referring to ?
(A) Prokaryotic cell
(B) Plant cell
(C) Animal cell
(D) It is not possible to predict from the given data.
50. Fertigation is :
(A) Irrigation + Fertilizer (B) Fertilizer + Pesticide (C) Irrigation + Pesticide (D) None of the above
51. Which one is mismatched :
(A) Flagella - Euglena (B) Pseudopodia - Amoeba
(C) Cilia - Paramecium (D) Cilia - Bacteria
52. Wildlife is destroyed most when :
(A) There is lack of proper care (B) Mass scale hunting for foreign trade
(C) It's natural habitat is destroyed (D) None of these

Space for Rough Work

53. Which of the following gives the cell its shape, maintains its size, protects the structures inside and is selectively permeable
 (A) Cell wall (B) Nuclear membrane (C) Cell membrane (D) Tonoplast
54. The activity not prohibited in a protected area meant for protection of plants and animals is
 (A) hunting (B) poaching (C) cultivation (D) tourism
55. The plant disease which is caused by the virus is
 (A) citrus canker (B) rust of wheat
 (C) yellow vein mosaic of bhindi (okra) (D) root knot of tobacco

5. MENTAL ABILITY

Straight Objective Type

This section contains 15 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

Directions : (56 to 57) Find the missing number.

56. 210, 120, ?, 24, 6, 0
 (A) 64 (B) 48 (C) 35 (D) 60
57. 2, 12, 36, 80, 150, ?
 (A) 194 (B) 210 (C) 252 (D) 258

Directions : (58 to 59) Which sequence of letters when placed at the blanks one after the other will complete the given letter series ?

58. a _ b b _ caab _ ccaa _ bcc
 (A) bacb (B) acbb (C) caba (D) abba
59. ab _ aa _ bbb _ aaa _ bbba
 (A) baab (B) abab (C) aaab (D) abba

Directions : (60 to 61) Find the missing letters.

60. BYCXA, EVFUD, HSIRG, KPLOJ, ?
 (A) MNLOL (B) NMOLM (C) QJRIP (D) PKQJO
61. UTRQU, QPNMT, MLJIS, IHFER, ?
 (A) EDCAQ (B) EDBAQ (C) IHFGP (D) KJHGP

Directions : (62) Find the missing term in figures.

62. 
 (A) 125 (B) 216 (C) 121 (D) 225

Space for Rough Work

63. If '+' stands for 'x', '-' stands for '÷', 'x' stands for '-' and '÷' stands for '+', then value of $\frac{(36 \times 4) - 8 \times 4}{4 + 8 \times 2 + 16 \div 1}$ is
 (A) 8 (B) 12 (C) 0 (D) 4

Directions : (64) In each of the following questions, a group of letters is given which are numbered 1, 2, 3, 4, 5 and 6. Below are given four alternatives containing combinations of these numbers. Select that combination of numbers so that letters arranged accordingly, form a meaningful word.

64. R U S G A
 1 2 3 4 5
 (A) 1, 5, 4, 2, 3 (B) 5, 3, 4, 1, 2 (C) 3, 2, 4, 5, 1 (D) 4, 5, 3, 2, 1
65. If **RADIO** is written **PYBGM**, then how would **OQDKNG** be written in that code ?
 (A) MOBIEL (B) MOBLIE (C) MOIBLE (D) MOBILE
66. A man walked 3 metre towards North, turned West and walked 2 metre then turned North and walked 1 metre and finally turned East and walked 5 metre. How far is he from the starting point?
 (A) 5 metre (B) 8 metre (C) 10 metre (D) 12 metre
67. P, Q, R, S and T are sitting around a circular table facing centre to the table. R is just the right to P and is second to the left of S. T is not between P and S. Who is second to the left of R ?
 (A) Q (B) S (C) T (D) P
68. A family has a man, his wife, their four sons and their wives. Each son has 3 sons and 1 daughter. How many male members are there in the whole family ?
 (A) 5 (B) 8 (C) 16 (D) 17

Direction : (69) The ages of Mandar, Shivku, Pawan and Chandra are 32, 21, 35 and 29 years, not in order, Whenever asked they lie of their own age but tell the truth about others.

- (i) Pawan says, "My age is 32 and Mandar's age is not 35"
 (ii) Shivku says, "My age is not 29 and Pawan's age in not 21"
 (iii) Mandar says, "My age is 32."
 69. What is Chandra's age ?
 (A) 32 years (B) 35 years (C) 29 years (D) 21 years

Directions : (70) Each question below has three items having certain relationship among them. The same relationship is expressed by sets of circles, each circle representing one item irrespective of its size. Match the items with right set of circles.

70. Clever, Punctual, Poor



Space for Rough Work

ANSWER KEY_CLASS – IX(WISDOM)

SAMPLE PAPER

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

Space for Rough Work