



Mathematics And Physics Teacher

Question No.
(21 / 50)Remaining exam time
00H:53Min:18SecRemaining additional time
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Q21. / 1 mark Q21.The energy associated with a photon depends upon the photon's

Answer

☐

velocity



amplitude

☐

frequency

☐

the brightness of the source from which it comes

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Q8. / 1 mark Q8. The revolution of the line segment AB, such that the coordinate of A and B are respectively A(1,2) and B(7,2), around the x-axis can help us to form a cylinder whose height equals:

Answer

A ☐ 5 units of length

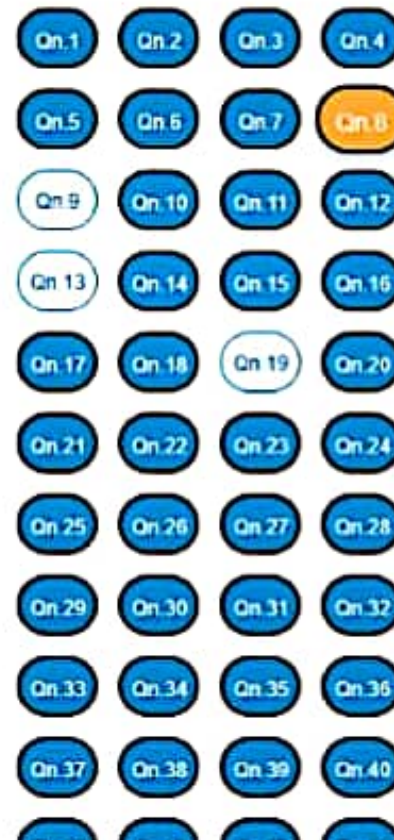
B ☒ 6 units of length

C ☐ 4 units of length

D ☐ 2 units of length

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All Questions



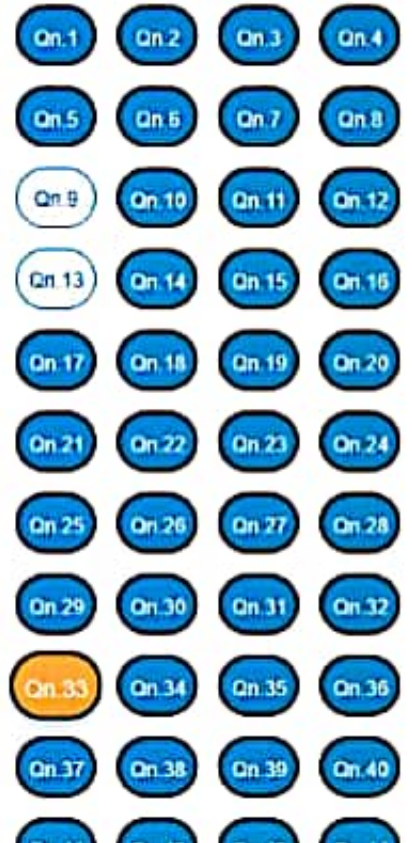
Q33. / 3 marks Q33. The intersection of the graphs of $f(x) = x^2$ and $g(x) = x$ is:

Answer

- ☐ A only the point with coordinates(0,0)
- ☐ B only the point with coordinates(0,1)
- ☒ C The points with coordinates (0,0) and(1,1)
- ☐ D only the point with coordinates (1,1)

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Q50. / 4 marks Q46.E. Which one of the following is related to summative evaluation?

Answer

A ☐ Provide the teacher with continuous and immediate feedback about student's progress

B ☐ Focuses on molecular analysis of instructional material

C ☐ On going of systematic assessment of learner's achievement

D ☒ Terminal assessment of learner's performance at the end of the session

—Good Luck—

All Questions



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Q19. / 1 mark Q19.Two light rays will interfere constructively with maximum amplitude if the path difference between them is:

Answer

- ☒ **A** one-half wavelength
- ☐ **B** one wavelength
- ☐ **C** one-quarter wavelength
- ☐ **D** one-eighth wavelength

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All Questions



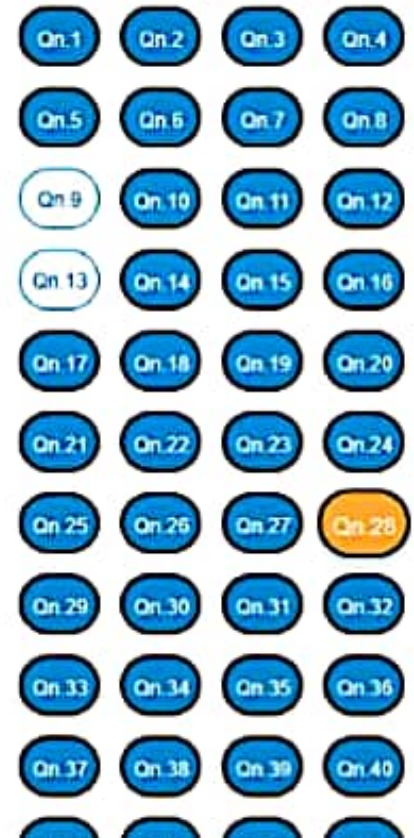
Q28. / 1 mark Q28.Two point charges q_1 and q_2 are situated at a distance d . There is no such point in between them where the electric field is zero. What can we deduce?

Answer

- A** ☐ There is no such point
- B** ☒ The charges are of the same polarity
- C** ☐ The charges are of opposite polarity
- D** ☐ The charges must be unequal

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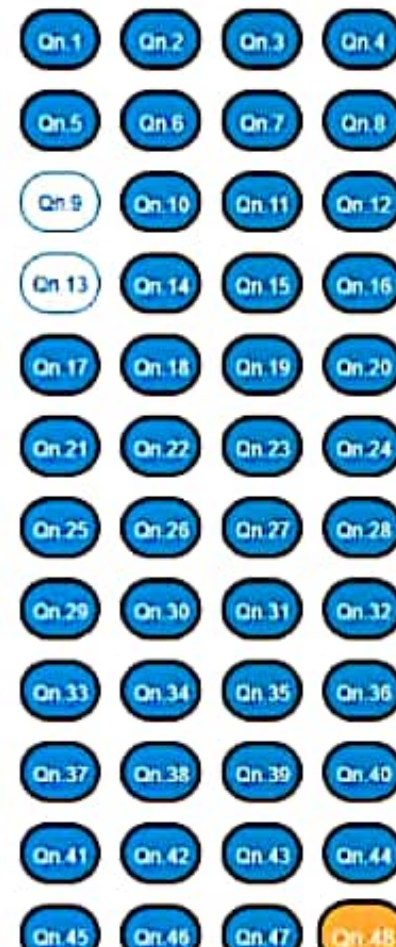
Q48. / 4 marks Q46.C. Which of these is not among the steps of lesson plan ?

Answer

- ☐ A Introduction
- ☐ B body or development of the lesson
- ☐ C Conclusion
- ☒ D The head of the lesson

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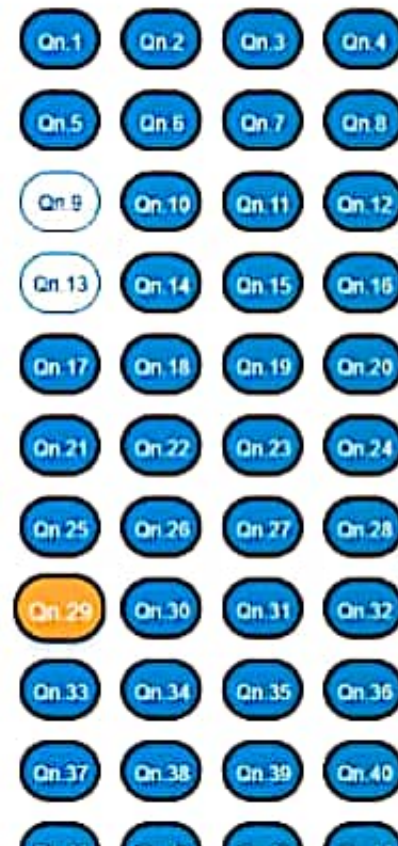
Q29. / 1 mark Q29. Work done to bring a unit positive charge from infinity to a point in an electric field is known as ____

Answer

- ☐ A Electric potential
- ☐ B Electric field intensity
- ☒ C Electric dipole moment
- ☐ D The total energy of the point charge

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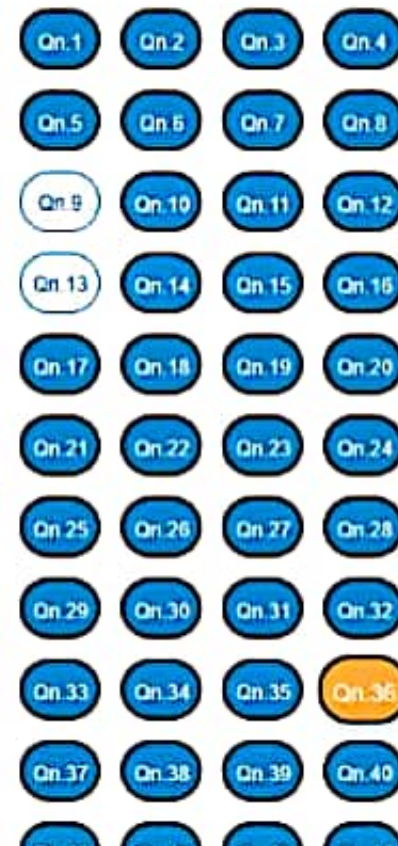
Q36. / 3 marks Q36.Which of the following characterizes an analog quantity?

Answer

- ☐ A Discrete levels represent changes in a quantity.
- ☒ B Its values follow a logarithmic response curve.
- ☐ C It can be described with a finite number of steps.
- ☐ D It has a continuous set of values over a given range.

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Q38. / 3 Q38. A 10,000 kg railroad car, A, traveling at a speed of 24.0 m/s strikes an identical (with same mass) car, B, at rest. If the cars lock together as a result of the collision, what is their common speed just afterward?

Answer

A ☐ 12.0 m/s

B ☒ 24.0 m/s

C ☐ 6.0 m/s

D ☐ 36.0 m/s

Saving...

All Questions

Qn. 1

Qn. 2

Qn. 3

Qn. 4

Qn. 5

Qn. 6

Qn. 7

Qn. 8

Qn. 9

Qn. 10

Qn. 11

Qn. 12

Qn. 13

Qn. 14

Qn. 15

Qn. 16

Qn. 17

Qn. 18

Qn. 19

Qn. 20

Qn. 21

Qn. 22

Qn. 23

Qn. 24

Qn. 25

Qn. 26

Qn. 27

Qn. 28

Qn. 29

Qn. 30

Qn. 31

Qn. 32

Qn. 33

Qn. 34

Qn. 35

Qn. 36

Qn. 37

Qn. 38

Qn. 39

Qn. 40

Q18. / 1 mark Q18.As a longitudinal wave moves through a medium, the particles of the medium:

Answer

☐ A vibrate in a path parallel to the path of the wave

☐ B vibrate in a path perpendicular to the path of the wave

☒ C follow the wave along its entire path

☐ D do not move

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Q13. / 1 mark Q13. For any quadratic function $f(x)$ whose axis of symmetry is the vertical axis, the vertex is:

Answer

☐ A The point $(0, f(0))$

☐ B The point $(0, 0)$

☐ C The point $(0, f'(0))$

☐ D The point $(0, f''(0))$

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Q22. / 1
mark

Q22. For the hydrogen atom, which series describes electron transitions to the $N=1$ orbit, the lowest energy electron orbit? Is it the:

Answer

A ☐ Paschen series

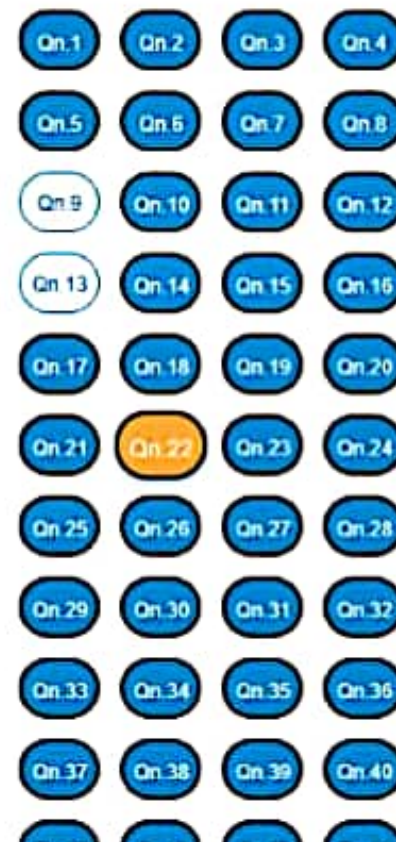
B ☒ Lyman series

C ☐ Balmer series

D ☐ Pfund series

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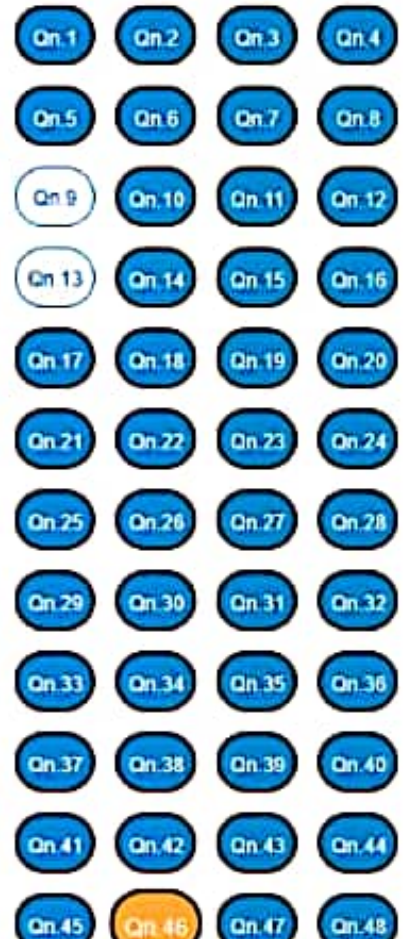
Q46. / 4 marks Q46 To become a professional physics teacher you must know much about teaching methodology. Q46. A. The following list shows the important teaching activities a teacher can do except?

Answer

- A** ☐ Cooking learners' foods
- B** ☒ Marking learners' homeworks
- C** ☐ Conduct physics experiments
- D** ☐ Prepare the lesson plans

Next

All Questions



Q50. / 4 marks Q46.E. Which one of the following is related to summative evaluation?

Answer

A ☐ Provide the teacher with continuous and immediate feedback about student's progress

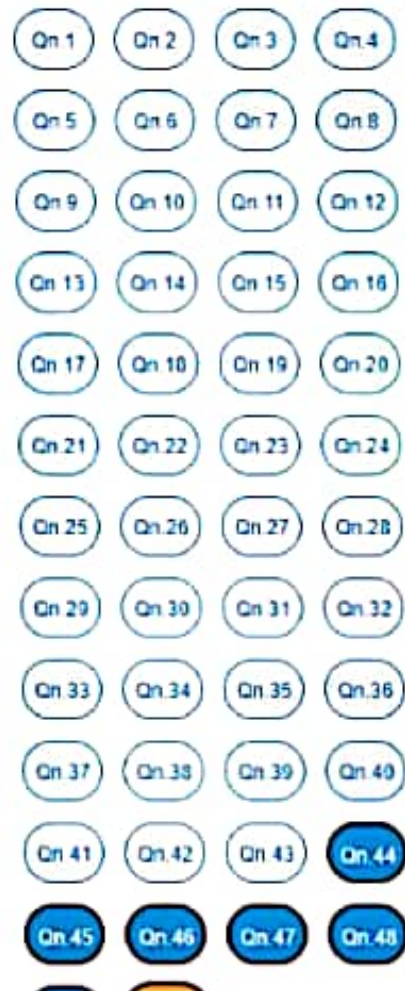
B ☐ Focuses on molecular analysis of instructional material

C ☐ On going of systematic assessment of learner's achievement

D ☒ Terminal assessment of learner's performance at the end of the session

—Good Luck—

All Questions



Q31. / 3 marks Q31. In a cartesian plane, parallel vectors with the same modulus and the same direction are:

Answer

A ☐ the same

B ☐ different

C ☐ opposite

D ☒ null

Saving...

All Questions



Q32. / Q32. The mass of 2 kg is osciating with an harmonic motion on a spring with the constant $k = 0.08$. The equation of its movement is a differential equation whose solution is $X = A \cos(\omega t)$ where A is a constant. In this solution, the value of ω is approximately:
3 marks

Answer

A ☐ 0.1

B ☒ 0.2

C ☐ 1

D ☐ 2

Saving...

All Questions



Q43. / 4 marks Q41.C. The number of way of sitting 7 students together is:

Answer

A ☐ 20

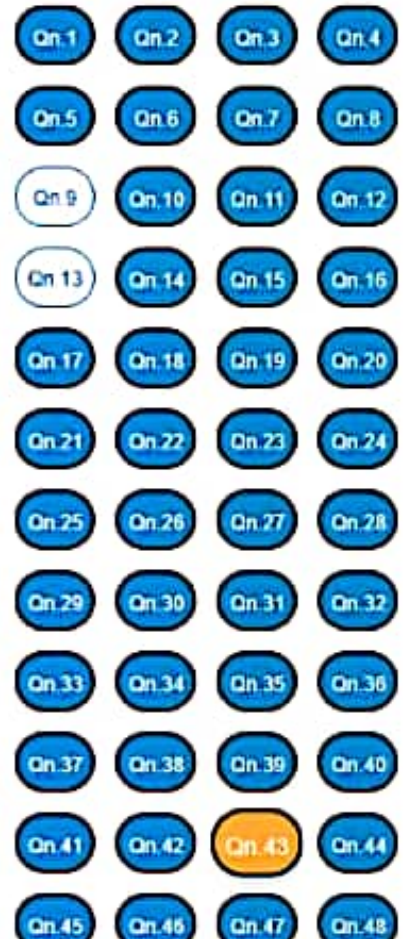
B ☐ 42

C ☐ 6

D ☒ 5040

Next

All Questions



Q49. / 4 marks Q46.D. The following list shows the important teaching documents a teacher must have in classroom except?

Answer

A

☐

Lesson plan

B

☐

Class diary

C

☒

Meter ruler

D

☐

scheme of work

Next

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Qn. 1

Qn. 2

Qn. 3

Qn. 4

Qn. 5

Qn. 6

Qn. 7

Qn. 8

Qn. 9

Qn. 10

Qn. 11

Qn. 12

Qn. 13

Qn. 14

Qn. 15

Qn. 16

Qn. 17

Qn. 18

Qn. 19

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Qn. 23

Qn. 24

Qn. 25

Qn. 26

Qn. 27

Qn. 28

Qn. 29

Qn. 30

Qn. 31

Qn. 32

Qn. 33

Qn. 34

Qn. 35

Qn. 36

Qn. 37

Qn. 38

Qn. 39

Qn. 40

Qn. 41

Qn. 42

Qn. 43

Qn. 44

Qn. 45

Qn. 46

Qn. 47

Qn. 48

Qn. 49

Qn. 50

Q23. / 1
mark

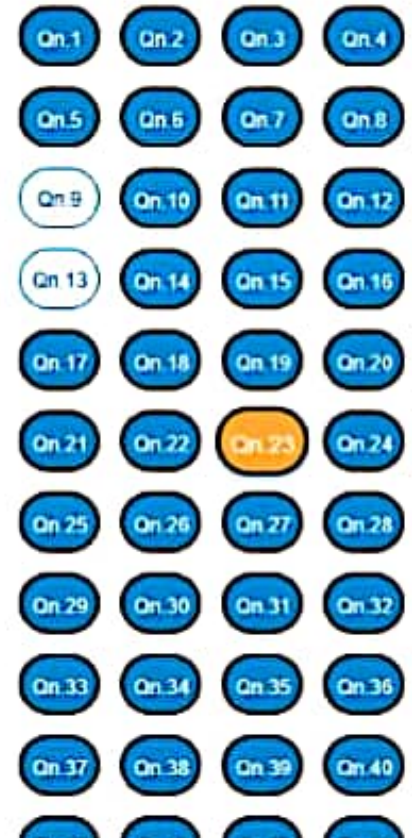
Q23. Assuming all other parameters remain constant, what happens to the pressure of a gas when the volume of the gas is increased?

Answer

- ☐ A increases
- ☐ B decreases
- ☐ C fluctuates sinusoidally
- ☒ D remains the same

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| Qn 17 | Qn 18 | Qn 19 | Qn 20 |
| Qn 21 | Qn 22 | Qn 23 | Qn 24 |
| Qn 25 | Qn 26 | Qn 27 | Qn 28 |
| Qn 29 | Qn 30 | Qn 31 | Qn 32 |
| Qn 33 | Qn 34 | Qn 35 | Qn 36 |
| Qn 37 | Qn 38 | Qn 39 | Qn 40 |
| Qn 41 | Qn 42 | Qn 43 | Qn 44 |
| Qn 45 | Qn 46 | Qn 47 | Qn 48 |

Q48. / 4 marks Q46.C. Which of these is not among the steps of lesson plan ?

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| Qn.5 | Qn.6 | Qn.7 | Qn.8 |
| Qn.9 | Qn.10 | Qn.11 | Qn.12 |
| Qn.13 | Qn.14 | Qn.15 | Qn.16 |
| Qn.17 | Qn.18 | Qn.19 | Qn.20 |
| Qn.21 | Qn.22 | Qn.23 | Qn.24 |
| Qn.25 | Qn.26 | Qn.27 | Qn.28 |
| Qn.29 | Qn.30 | Qn.31 | Qn.32 |
| Qn.33 | Qn.34 | Qn.35 | Qn.36 |
| Qn.37 | Qn.38 | Qn.39 | Qn.40 |
| | | | |

Q33. / 3 marks Q33. The intersection of the graphs of $f(x) = x^2$ and $g(x) = x$ is:

Answer

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- ☐ B only the point with coordinates(0,1)
- ☒ C The points with coordinates (0,0) and(1,1)
- ☐ D only the point with coordinates (1,1)

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Q42. / 4 marks Q41.B.The number of way of sitting 4 girls together is:

Answer

A ☐ 3

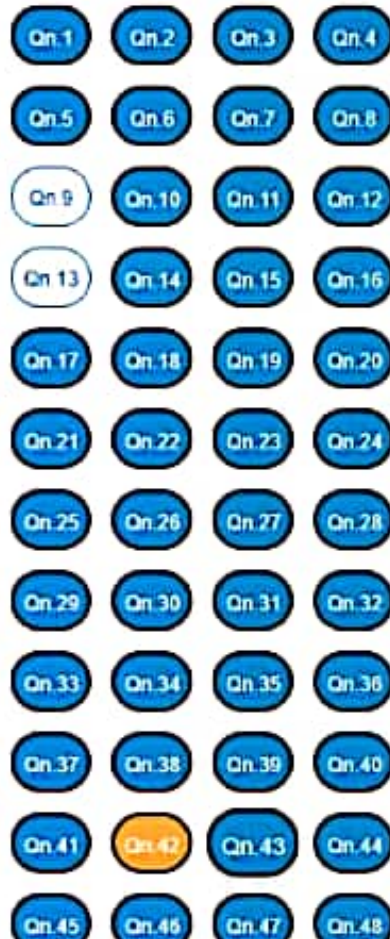
B ☐ 6

C ☒ 24

D ☐ 12

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Q3. / 1 mark Q3. The set of real numbers and the set of complex numbers exist and:

Answer

A ☐ The set of complex numbers is a subset of the set of real numbers

B ☒ The set of real numbers is a subset of the set of complex numbers

C ☐ the two sets are equal

D ☐ the intersection of the two sets is an empty set.

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Q30. / 1 mark Q30.The inner most layer of the Sun's atmosphere is

Answer

☐ A Corona

☐ B Chromosphere

☒ C Photosphere

☐ D None of these

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Q11. / 1 mark Q11. Consider a sphere of center $O(0,0,0)$ and having the point $P(5,5,5)$. An object is located out of the sphere if it is located:

Answer

☒ A At a distance greater than 5 units of length from the center

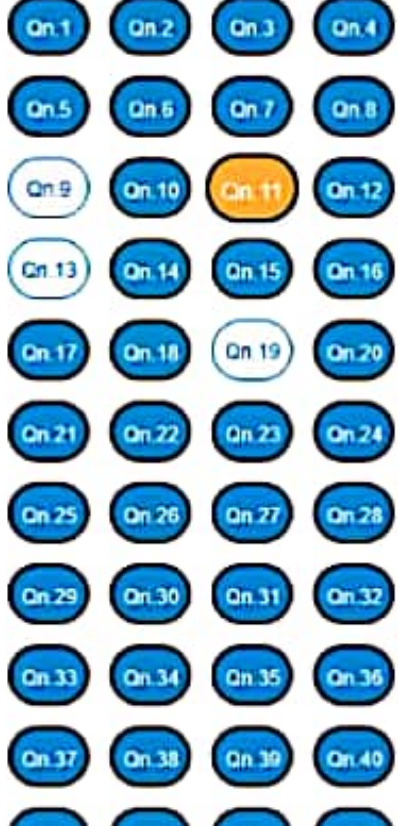
☐ B only at a distance of 10 units of length from the center

☐ C only at a distance less than 10 units of length from the center

☐ D At a distance less than 5 units of length from the center

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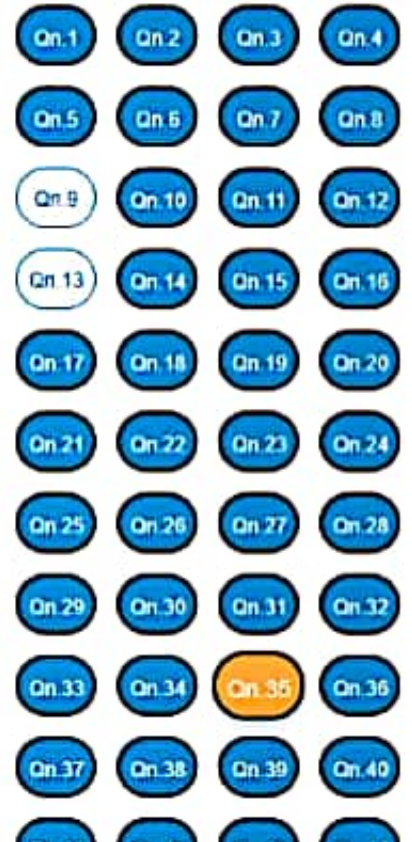
Q35. / 3 marks Q35. For $0 < a < 1$, the curve of function $f(x) = a^x$ has:

Answer

- ☐ A vertical asymptote
- ☒ An oblique asymptote
- ☐ An horizontal asymptote
- ☐ a real limit for x approaching negative infinity.

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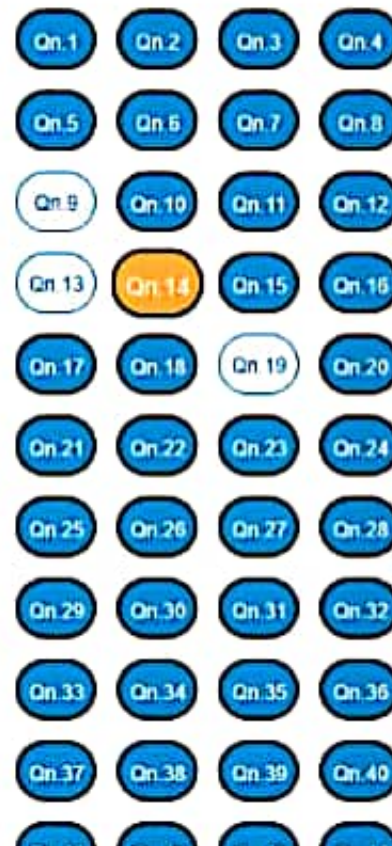
Q14. / 1 mark Q14. The value of the derivative of a given function at the point is:

Answer

- ☐ A the tangente of the curve of the given function at that point
- ☐ B the horizontal line of the curve at that point
- ☒ C the slop of the tangente of the curve of that function at the given point.
- ☐ D equal to the sine of angle formed at that point

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Q34. / 3 marks Q34. The graph of a quadratic expression can be sketched with the help of the table of values and it looks like:

Answer

A ☐ a square

B ☒ parabola

C ☐ circle

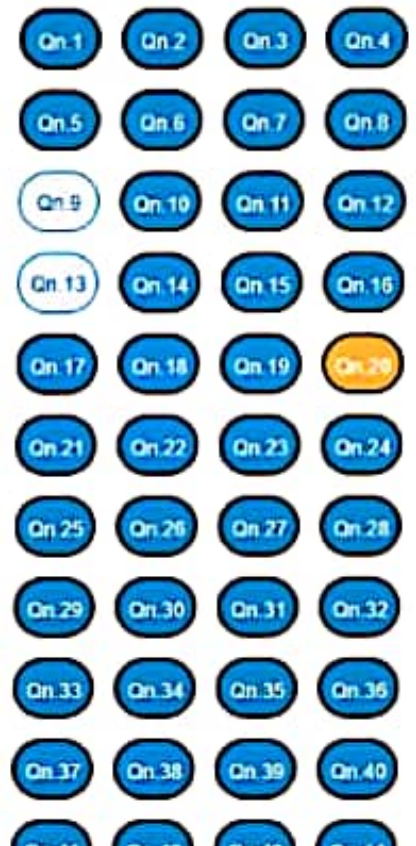
D ☐ triangle

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Q20. / 1 mark Q20.The relationship between kinetic energy and the potential energy of a swinging pendulum is one of the following. Is it:

Answer

- ☒ **A** kinetic energy is greater than potential energy
- ☐ **B** kinetic energy is less than potential energy
- ☐ **C** kinetic energy is equal to potential energy
- ☐ **D** kinetic energy plus potential energy equals a constant

Next

Q7. / 1 Q.7 In a class of 20 pupils, 12 like physics and 10 like Chemistry. The number of students who do not like the two subjects is half the number that like both. The total number of students who like both subjects is:

Answer

A ☐ 2

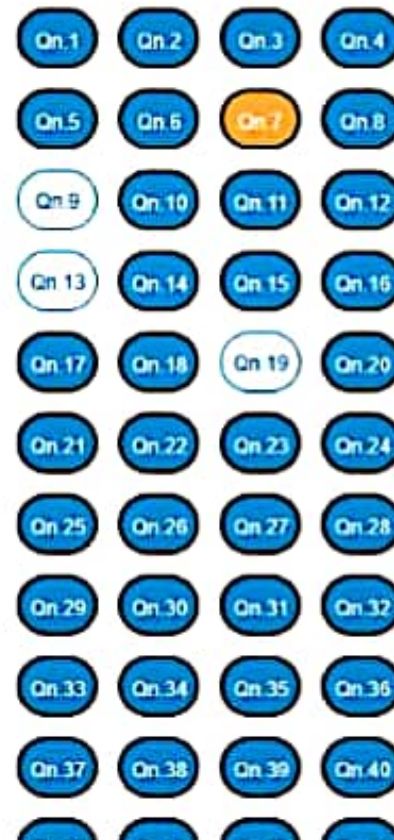
B ☐ 6

C ☒ 4

D ☐ 8

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Q21. / 1 mark Q21.The energy associated with a photon depends upon the photon's:

Answer

☐ A velocity

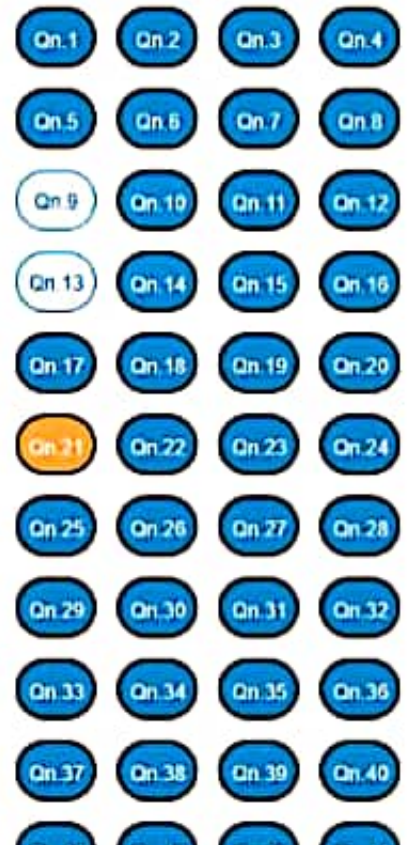
☒ B amplitude

☐ C frequency

☐ D the brightness of the source from which it comes

Next

All Questions



Q28. Choose the following organic compound and



- A. Aliphatic
- B. Aromatic
- C. Aliphatic

Q29. 20 What is the percent composition by mass of a 100 g salt solution, which contains 20 g salt?

Answer

0-9

0-9

All Questions



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Q37. / 3 marks Q37.What is the critical angle for total internal reflection when light travels from glass (n is 1.52) to water (n is 1.33)?

Answer

A ☐ 29.0°

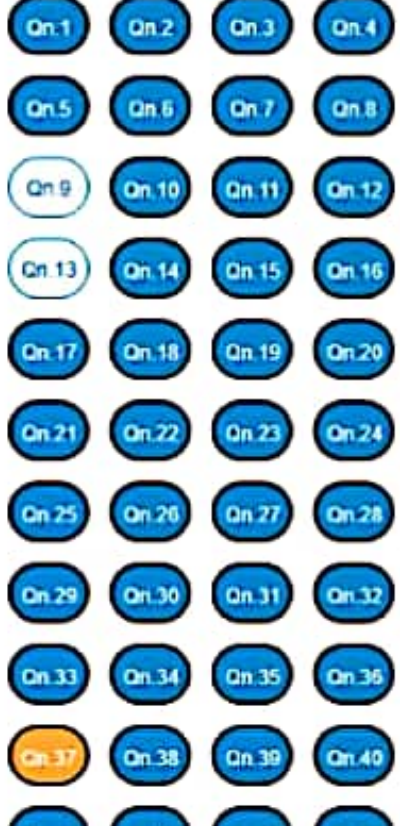
B ☐ 41.2°

C ☐ 48.8°

D ☒ 61.0°

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Q44. / 4 marks Q41.D.The probability of sitting 3 boys together and 4 girls together so that girls remain on the right side of all boys is:

Answer

A ☐ 0.028

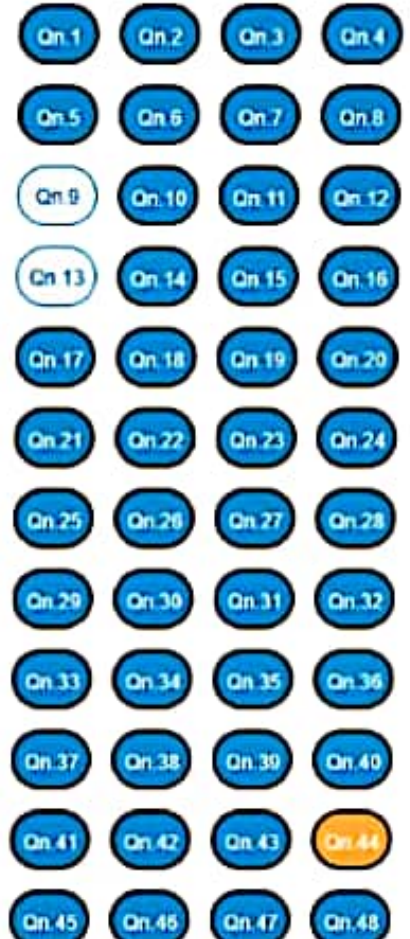
B ☒ 1

C ☐ 0.05

D ☐ 0.3

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| Qn 33 | Qn 34 | Qn 35 | Qn 36 |
| Qn 37 | Qn 38 | Qn 39 | Qn 40 |
| Qn 41 | Qn 42 | Qn 43 | Qn 44 |
| Qn 45 | Qn 46 | Qn 47 | Qn 48 |

Q43. / 4 marks Q41.C. The number of way of sitting 7 students together is:

Answer

- ☒ A 20
- ☐ B 42
- ☐ C 6
- ☐ D 5040

Next

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Q40. / 3 marks Q40 An object is placed 32.0 cm from a convex lens that has a focal length of 8.0 cm. Where is the image?

Answer

A ☐ 40.0 cm

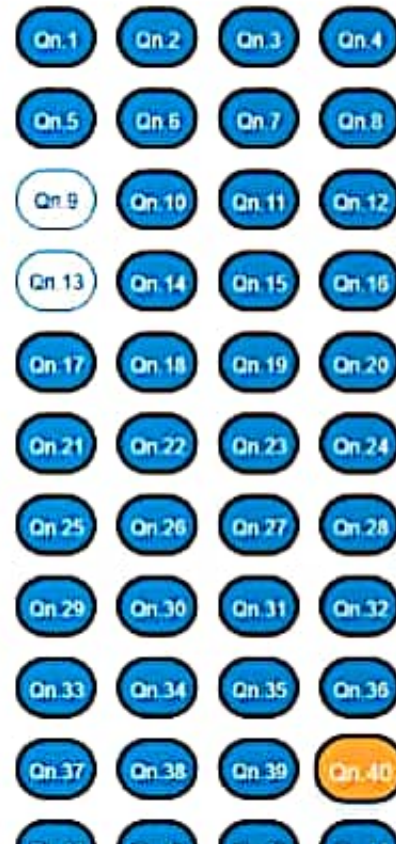
B ☐ 11 cm

C ☐ 24.0 cm

D ☒ 256.0 cm

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Q47. / 4 marks Q 46.B. What should the teacher do if a student is unable to answer questions in classroom?

Answer

A

☐

Advice him/her to study well

B

☒

Try to understand the reason why he was unable to answer the questions

C

☐

Punish him/her so that he/she answers next time

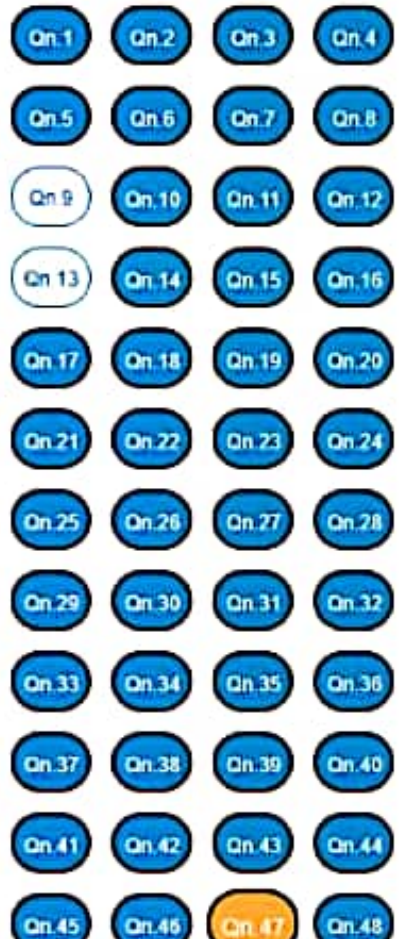
D

☐

Scold him/her in class and make him feel insulted

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Q41. / 4
marks

Q41. The 7 students (3 boys and 4 girls) want to sit on a bench in ways that boys sit together and all girls sit together. Q41.A.
The number of ways of sitting 3 boys together is:

Answer

A ☐ 2

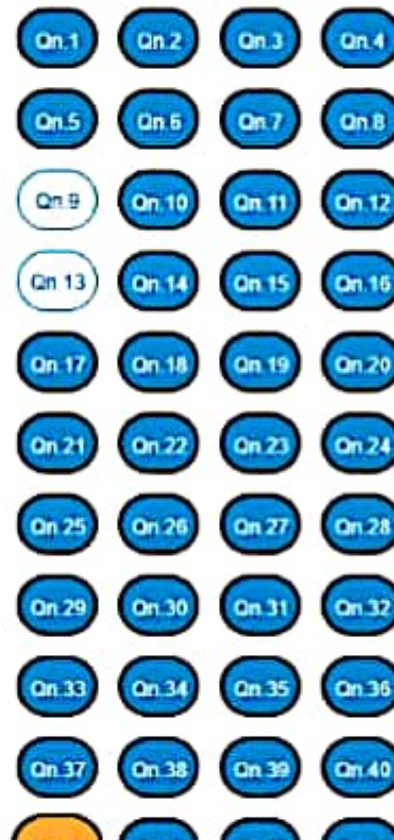
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C ☐ 4

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