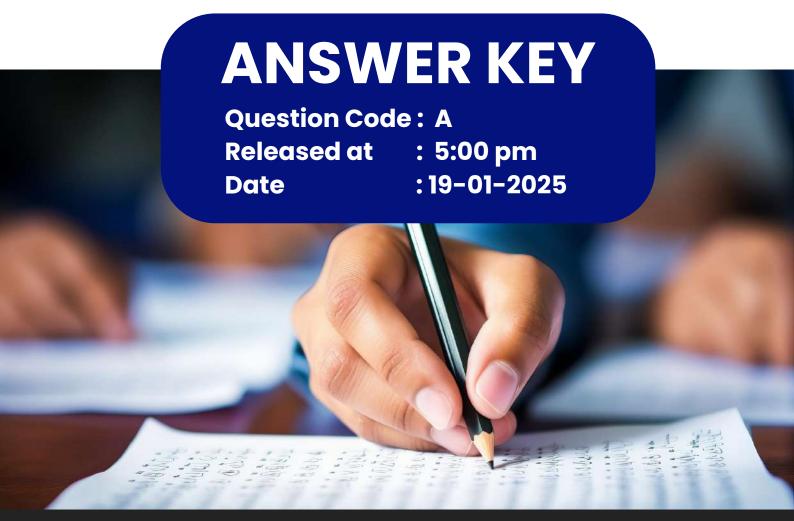


KTET CATEGORY-3

PHYSICAL SCIENCE



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CATEGORY-III

PART - 3

Physical Science Question Numbers 71 to 150

- 71. What is the unit of self-inductance?
 - (A) henry
 - (B) ohm
 - (C) farad
 - (D) tesla
- 72. A ball of mass 500 g has 800 J of total energy at a height of 10 m. Assuming no energy loss, how much energy does it possess at a height of 5 m?
 - (A) 200 J
 - (B) 400 J
 - (C) 600 J (D) 800 J
- 73. Which of the following are exothermic reactions?
 - neutralisation reaction between acid and alkali
 - (ii) formation of methane from nitrogen and hydrogen at 500°C
 - (iii) dissolution of NH₄Cl in water
 - (iv) decomposition of potassium chlorate
 - (A) (ii) and (iv)
 - (B) (ii) and (iii)
 - (C) (i) and (iii)
 - (D) (i) and (ii)
 - (2) (1) and (1)

- 74. The process used for the production of sulphuric acid:
 - (A) Lead chamber process
 - (B) Haber process
 - (C) Deacon process
 - (D) Solvay process
- 75. The gravitational force on the lunar surface is approximately 1/6 times that of the Earth. (g=10 ms⁻²). If an object of mass 12 kg in earth is taken to the surface of the Moon, what will be its weight at the moon's surface?
 - (A) 12 N
 - (B) 20 N
 - (C) 120 N
 - (D) 2 N
- 76. A circular coil carrying a current I has radius R and number of turns N. If all the three, i.e. the current I, radius R and number of turns N are doubled, then, magnetic field at its centre becomes:
 - (A) One fourth
 - (B) Half
 - (C) Four times
 - (D) Double

- 77. Which of the following light pairs of light is the odd one out?
 - (A) Magenta and green
 - (B) Cyan and red
 - (C) Yellow and blue
 - (D) Cyan and blue
- 78. Which of the following solutions have the same concentration?
 - (i) 4 g of NaOH in 250 mL of solution
 - (ii) 0.5 mol of KCl in 250 mL of solution
 - (iii) 40 g of NaOH in 250 mL of solution
 - (iv) 5.61 g of KOH in 250 mL of solution
 - (A) (i) and (iv)
 - (B) (i) and (iii)
 - (C) (iii) and (iv)
 - (D) (i) and (ii)
- 79. Two sound waves A and B have same amplitude and same wave pattern, but their frequencies are 60 Hz and 120 Hz respectively, then:
 - (A) A will be shriller and B will be grave
 - (B) A will be grave and B will be shriller
 - (C) A will differ in quality than B
 - (D) A is louder than B

- 80. An object of mass 8.5 kg is kept on a level surface. On applying a force of 60 N, the object moves 12 m in the direction of the force. Calculate the quantity of work done.
 - (A) 102 I
 - (B) / 720 J
 - (C) 60 J
 - (D) 510 J
- 81. Among halogens, the correct order of electron gain enthalpy is:
 - (A) F > CI > Br > I
 - (B) F < C1 < Br > I
 - (C) F < CI > Br > I
- (D) F < Cl < Br < I
- 82. The number of carbon atoms in 10 g CaCO₃ is :
 - (A) 6.022×10²²
 - (B) 6.022 × 10²¹
 - (C) 6.022×10²⁰
 - (D) 6.022×10²³
- 83. Which of the following has more covalent character?
 - (A) CsCl
 - (B) LiC1
 - (C) NaCl
 - (D) KCI

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Code: A

- 84. Which among the following is an amphoteric oxide?
 - (A) Na₂O
 - (B) CaO
 - (C) NO
 - (D) Al₂O₃
- 85. Which statement correctly describes the working of a loudspeaker?
 - (A) Electromagnetic induction principle, converting sound to electrical energy
 - (B) Electromagnetic induction principle, converting electricity to sound energy
 - Motor principle, converting electrical energy to sound energy
 - (D) Motor principle, converting sound to electricity
- Maximum amount of a solid solute that can be dissolved in a specified amount of a given liquid solvent does not depend upon
 - (A) Nature of solute

(B) Pressure

- (C) Nature of solvent
- (D) Temperature

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- 87. Heat capacity of a body is:
 - (A) the energy needed to melt the body without the change in its temperature
 - (B) the energy needed to raise the temperature of the body by I°C
 - (C) the increase in the volume of the body when its temperature increases by PC
 - (D) the total amount of internal energy that is constant.
- 88. Which of the following statements is correct regarding Semiconductor Physics?
 - (A) N-type semiconductor has a majority of holes.
 - To convert a pure semiconductor into
 a P-type semiconductor. Phosphorus
 is used as a dopant.
 - (C) In the energy band diagram of a metal, the torbidden band is absent.
 - (D) The resistance of a semiconductor increases with increasing temperature.

A

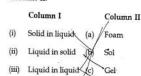
89. A light beam passing through three mediums P, Q and R is given, by observing the figure, find out the correct statement related to the optical density of the mediums.



(A) P>Q>R

- (C) Q>P>R
- Four statements are given regarding the image formed by a concave lens. Find the correct statement(s).
 - (1) Diminished and inverted
 - (2) Diminished and virtual
 - (3) Enlarged and virtual
 - (4) Diminished and erect
 - (A) First statement only is correct
 - (B) Second statement only is correct
 - (C) Second and fourth statements are correct
 - (D) Third statement only is correct

- 91. The IUPAC name CH₃COCH=CHCOOH is :
 - (A) 1-hydroxypentane-1, 4-dione
 (B) 1-hydroxypent-2-en-1, 4-dione
 - (C) 4-oxopent-2-enoic acid
 - (D) 4-oxopentanoic acid
- Match the types of colloidal systems given in Column I with the name given in Column II



(a) (i)-(b), (ii)-(c), (iii)-(d), (iv)-(a)

(d)

(iv) Gas in liquid

- (B) (i)-(c), (ii)-(d), (iii)-(a), (iv)-(b)
- (C) (i)-(a), (ii)-(b), (iii)-(c), (iv)-(d)
- (D) (i)-(d), (ii)-(c), (iii)-(a), (iv)-(b)
- 93. Which of the following method is used to purify a liquid that decomposes at its boiling point?
 - (A) Crystallisation
 - (B) Differential extraction
 - (C) Fractional distillation
 - (D) Distillation under reduced pressure

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What type of mirror produces a 102. Which of the following statements are An object of mass 10 kg is allowed to fall to 104. The pH of 10^{-2} M H_2SO_4 is: magnification of +1? the ground from a height of 20 m. How long correct for cathode rays? will it take to reach the ground ? Cathode rays consist of negatively (A) Plane mirror (A) 2 charged particles. (g=10 ms-2) (B) Concave mirror (B) 7 They are undeflected by electric and (A) 1s (C) Convex mirror magnetic fields. (C) 1.7 (B) 25 The characteristics of cathode rays do (D) None of these (D)/1 not depend upon the material of (C) (iv) The characteristics of cathode rays If a person's near point is 25 cm (normal) 105. Which of the following is not a homogeneous but their far point is not infinity, what defect depend upon the nature of the gas does this indicate? Which method demonstrates electrostatic present in the cathode ray tube. induction (A) No defect (A)/(ii) and (iv) (A) ice cubes in soft drink (A) Rubbing a balloon on hair (B) (ii) and (iii) (B) steel Myopia (near sightedness) Touching a charged sphere to a neutral (C)/ (i) and (iii) (C) brine Hypermetropia (far sightedness) (D) (i) and (ii) (D) vinegar Bringing a charged rod near a neutral (D) Presbyopia 103. Analyse the following statements and metal rod choose the correct option. Statement I: All isotopes of a given 106. Which of the following element can be (D) Connecting a battery to a circuit Which of the following is the pure form of element show the same involved in $p\pi$ - $p\pi$ bonding? carbon? type chemical of (A) diamond 100. Which factor affects the loudness of sound? behaviour. Statement II: The chemical properties of (A) Frequency an atom are controlled by Amplitude (C) graphite carbon the number of electrons in Wavelength (D) fullerence (D) beryllium Both Statement I and Statement II are (D) Pitch true and Statement II is the correct 107. A gun of mass 10 kg fires a bullet of mass 0.05 kg with a muzzle velocity of 500 m/s. What is the recoil velocity of the gun? Which of the following is the densest metal explanation of A. on Earth Both Statement I and Statement II are 101. The spherical shape of rain-drop is due to: true but Statement II is not the correct (A) Pb (A) 5 m/s (A) gravity explanation of A. (B) Os Statement I is true but Statement II is atmospheric pressure (B) 0.25 m/s false (C) W (C)/ surface tension (C) 25 m/s Both Statement I and Statement II are (D) Ti (D) viscosity false. (D) 2.5 m/s



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	English	Articles – definite and indefinite articles Singular and plurat	
Day 2	SCERT Biology	CLASS 5 (CHAPTER 8)- അകറ്റിനിർത്താം രോഗങ്ങളെ CLASS 10 (CHAPTER 4)- അകറ്റിനിർത്താം രോഗങ്ങളെ CLASS 10 (CHAPTER 5) - പ്രതിരോധത്തിന്റെ കാവലാളുകൾ	
	SCERT Economics	CLASS 7 (CHAPTER 7) - സമ്പദ് ശാസ്ത്ര ചിന്തകൾ CLASS 11 (CHAPTER 11) - ഇന്ത്യയും സാമ്പത്തിക ആസുരുണവു	
	Maths	സംഖ്യകളും അഭിസ്ഥാന ക്രിയകളും	
Day 3	Biology	കേരളത്തിലെ ആരോഗ്യക്ഷേമ പ്രവർത്തനങ്ങൾ പരിസ്ഥിതിയും പരിസ്ഥിതി പ്രശ്നങ്ങളും	
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	Maths	സംഖൃകളും അടിസ്ഥാന ക്രിയകളും	
Day 4	SCERT Physics		

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Code: A

- 108. When a body vibrates under periodic force the vibration of the body is always:
 - (A) At the same frequency as the periodic force
 - (B) At twice the frequency of the periodic force
 - (C) At half the frequency of the periodic force
 - (D) Independent of the frequency of the periodic force
- 109. What does SONAR stand for ?
 - (A) Sound Navigation And Radar
 - (B) Sound Navigation And Ranging
 - (C) Sound Navigation And Response
 - (D) Sound Navigation And Reflection
- Assertion and Reason related to magnetic lines of force are given below.
- Assertion : Magnetic lines of force do not intersect each other.
 - Reason: At the point of intersection, the magnetic field will have two directions.

Choose the correct option :

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- (A) Both Assertion and Reason are correct, and Reason is the correct explanation for Assertion.
- (B) Both Assertion and Reason are correct, but Reason is not the correct explanation for Assertion.
- (C) Assertion is true and Reason is false.
- (D) Assertion is false and Reason is true

- 111. Which of the following forms an acidic solution on hydrolysis?
 - (A) CH₃COONa
 - (B) NH₄Cl
 - (C) KCI
 - (D) CH₃COOK
- 112. Which of the following is the most abundant element in the Universe?
 - (A) Helium
 - B) Carbon
 - (C) Nitrogen
 - (D) Hydrogen
- 113. Which of the following species has an odd electron octet?
 - (A) boron trifluoride
 - (B) nitrogen monoxide
 - (C) phosphorus pentachloride
 - (D) sulphur hexafluoride
- 114. Which of the following metals can displace hydrogen from mineral acids?
 - (i) Ag
 - (ii) Zn
 - (iii) Mg
 - (iv) Cu
 - (A) (ii) and (iv)
 - (B) (i) and (ii)
 - (C) (ii) and (iii)
 - (D) (iii) and (iv)

- 115. What happens when a ferromagnetic material is heated above its Curie temperature?
 - (A) It becomes diamagnetic
 - (B) It becomes paramagnetic
 - (C) It loses its magnetic properties
 - (D) Its magnetic properties increase
- 116. A cylindrical object with a density of 0.8 g/cm³ is partially submerged in water. If the volume of object is 0.5 m³, what is the magnitude of the buoyant force acting on it? /



- (C) 4900 N
- (D) 5000 N
- 117. Which of the following changes decrease the vapour pressure of water kept in a sealed vessel?
 - (i) adding salt to water
 - (if) decreasing the temperature of water
 - (iii) decreasing the volume of the vessel to one-third
 - (v) decreasing the quantity of water
 - (A) (ii) and (iv)

(B) (i) and (ii)

- (C) (iii) and (iv)
- (D) (ii) and (iii)

118. Which of the following statements about the motion of an object on which unbalanced forces act is false?

The object could continue moving a constant speed in a straight line.

- B The object could accelerate.
- (C) The object could slow down.
- (D) The object could change the direction in which it is moving.
- 119. Two resistors, 15 Ω and 10 Ω , are connected in parallel across a 6 V battery. What is the current flowing through the 15 Ω resistor?

(A) 0.4 A (B) 1 A (C) 0.6 A (C) 2.5 A (D) 2.5 A

- 120. Which of the following options does not represent ground state electronic configuration of an atom?
 - (A) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^8/4s^2$
 - (B) 1s² 2s² 2p⁶ 3s² 3p⁶ 3d⁹ 4s² (C) 1s² 2s² 2p⁶ 3s² 3p⁶ 3d¹⁰ 4s¹
 - (D) 1s² 2s² 2p⁶ 3s² 3p⁶ 3d⁵ 4s¹
- 121. If a teacher faces difficulty in identifying appropriate learning experiences for a lesson, which among the following will be most helpful for the teacher?
 - (A) Hand book
 - (B) Text book

10

- (C) Work book
- (D) Supplementary reader

B. B. Wall





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I am very thankful to CC team. Your support and guidance are the main reason behind to achieve category I and category 2 Your study plan notes classess and model exams all helped me alot once again thankyou for all my teachers and mentors...

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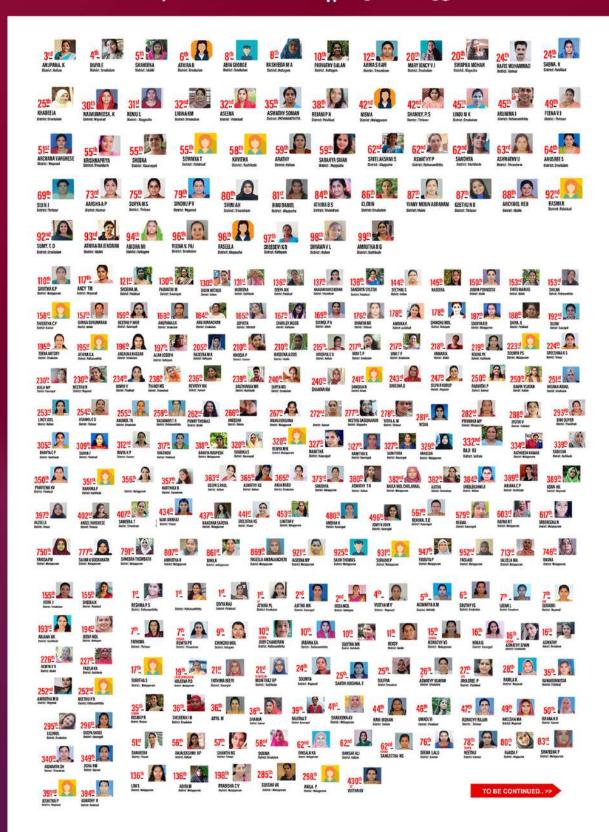
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122. Validity refers to the extent to which a test :

(A) Readability

Adaptability

Accuracy Flexibility

Code: A

134. Value points are used to reduce the

subjectivity of:

(A) / Essay type questions

(B) Multiple choice questions

related to atomic theory? (A) measures what it does measure (A) Rig Veda (B) is consistent over time Upanishads (C) is free from bias (C) Charaka Samhita (D) measures what it is intended to measure Vaisheshika Sutra 123. Which among the following is an example Choose the most appropriate one. Which of the following ensures experiential for fact ? (A) Metals conduct electricity (A) Lecture method Acids change blue litmus to red Cooperative learning Water boils at hundred degree centigrade Textbook-based learning (D) Energy is the capacity to do work Field trips 124. In a classroom, teacher first provides 128. Which of the following is not a key component of a lesson plan? examples of the concept Simple machine and then helps students to arrive at its definition. The method used by the teacher is : (A) Student interests (A) Pure Discovery method (B) Learning objectives Inductive method Assessment strategies Curricular objectives (D) Deductive method 129. Which of the following is not a characteristic 125. Fog index of a science textbook represents of a constructivist classroom?

126. Which ancient Indian text discusses concepts

(A) Student-centered learning

Rote memorization

(D) Inquiry-based learning

Collaborative learning

(B)

	A S.
(C) during and after the activity	(C) Sentence completion questions
(D) after the activity	(D) Objective type questions
131. Which of the following is a progressive curriculum approach?	135. If a chemical spills on your skin, immediately you should:
(A) Constructivist approach	(A) Rub it off
(B) Behaviourist approach (C) Traditional approach	(B) Rinse the affected area with plenty of water
(D) Teacher-centered approach	(C) Apply available ointment to the affected area
132. Logical aspect of scientific method includes:	(D) Ignore it and continue with the experiment
(A) Observation	136. Identify the odd one.
(B) Sampling	(A) Chaining
(C) Synthesis	(B) Verbal association
(D) Experiment	(C) Generalisation
	(D) Concept learning
Remedial teaching is designed to : (A) Punish students for poor performance	137. To overcome the challenges of professional development, it is important to :
(B) Accelerate the learning of gifted students	(A) Rely solely on traditional methods
(C) Ignore the individual needs of students	(B) Embrace innovative approaches and technologies
(D) Provide support to academically backward students	Ignore the needs of teachers Discourage collaboration and sharing

12

130. The process of reflection helps students in

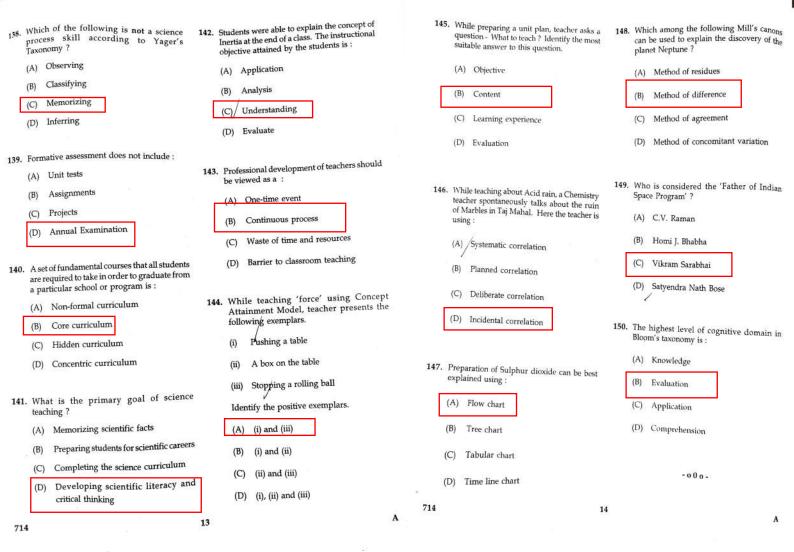
self improvement. This can be done:

(A) during and before the activity

(B) before and after the activity

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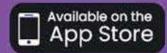






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