Padasalai's Public Exam Model Question Paper

10th - SCIENCE

Time Allowed: 15 mins + 2.30 hours] Maximum Marks: 75 Instructions : (1) Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall supervisor immediately.

> Use Blue (or) Black ink to write and underline and pencil to draw diagrams. (2)

Note : This question paper contains four parts.

PART – I

12x1 = 12

Choose the most suitable answer and write the code with the corresponding answer

1.	. A convex lens forms a real, diminished point sized image at focus. Then the position of the object is at							
	a) focus 2. The resistiv		-	c) at 2f		d) betweer	n f and 2f	
	a) 1.62x10 ⁻⁸			c) 12.9x1	0 ⁻⁸	d) 3.48x10 ⁻	8	
3.	rays hav	e the lowe	st penetrat	ing power				
	a)α l	b) β	c) γ	d) both a	a and b			
4.	4. Which of the following has the smallest mass?							
	a. 6.023 × 10^{23} atoms of He			b. 1 atom of He				
	c. 2 g of He				d. 1	mole atoms	of He	
5.	A single displ Which of the				lby >	$(s) + 2HCI_{(aq)}$	\rightarrow XCl _{2(aq)} + H _{2(g)} .	
	(i) Zn (ii) Ag (iii) Cu			(iv) Mg.	Choos	e the best p	oest pair.	
	a. i and ii	b . i	i and iii		c. iii a	and	iv d. i and iv	
6.	Why is cleans	ing power	of deterge	nt greater	than so	ap?		
	a) Because it i	increases s	urface tens	ion of wat	er mole	cules.		
	b) Because it	increases v	iscosity of	water mol	ecules.			
	c) Because it increases adhesive force of water molecules.							
	d) Because it	reduce sur	face tensio	n of water	of water molecules.			

 8. Which of the following is an IUCD? a) Copper – T b) oral pills c) Diaphragm d) tubectomy 9. Excessive consumption of alcohol leads to a) Loss of memory b) cirrhosis of liver c) State of hallucination d) suppression of brain function 10. Plants and animals are typically sterile. a) Tetraploidy b) triploidy c) euploidy d) aueuploidy
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11. Melatonin is a hormone produced by the
a) Pituitary gland b)pineal gland
c) Thyroid gland d) parathyroid gland
12. Which is used to build scripts?
a) Script area b) Block palette c) stage d) sprite
PART – II
Note: Answer any Seven Questions (Question No. 22 Compulsory)7x2=14
13. How does an astronaut float in a space shuttle?
14. A container whose capacity is 70 ml is filled with a liquid up to 50ml. Then, the
liquid in the container is heated. Initially, the level of the liquid falls from 50ml to
48.5 ml. Then we heat more, the level of the liquid rises to 51.2ml. Find the

- apparent and real expansion. 15. Differentiate light and sound
- 16. The aquatic animals live more in cold region why?
- 17. a)State the reason for addition of caustic alkali to bauxite ore during purification of bauxite.
- b) Along with cryolite and alumina, another substance is added to the electrolyte mixture. Name the substance and give one reason for the addition.
- 18. Why are thyroid hormones referred as personality hormone?
- 19. I) define stimulus ii) define reflex arc.
- 20. List out the parasitic adaptations in leech.
- 21. What is respiratory quotient?
- 22. Calculate the number of molecules in 11g of CO_2 .



Note: Answer any Seven Questions (Question No. 32 Compulsory) 7x4=28

- 23. a) State the universal law of gravitation and derive its mathematical expressionb) Differentiate mass and weight
- 24. a) Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.
 - b) State Snell's law
- 25. Give the salient features of "Modern atomic theory".
- 26. Write the IUPAC name of the following



- 27. Metal A belongs to period 3 and group 13. A in red hot condition reacts with steam to form B. A with strong alkali forms C. Find A,B and C with reactions
- 28. In what way hygroscopic substances differ from deliquescent substances.
- 29. Differentiate the following:
 - a) Monocot root and dicot root
 - b) Aerobic and anaerobic respiration.
- 30. Enumerate the importance of forest/
- 31. a)What is oncology? b) What are the types of cancer?
- 32. a) A source and listener are both moving towards each other with a speed v/10 where v is the speed of sound. If the frequency of the note emitted by the source is
 - f, what will be the frequency heard by the listener?

b) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 4 kg.

PART – IV

Note: 1. Answer all the question

2. Each question carries seven marks 3. Draw diagram wherever necessary

3x7=21

33. a) Derive the ideal gas equation.

b) Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram.

(OR)

a) State Joule's law of heating.

- b) An alloy of nickel and chromium is used as the heating element. Why?
- c) How does a fuse wire protect electrical appliances?
- d) Compare the properties of alpha, beta and gamma radiations.
- 34. Explain the factors influencing the rate of a reaction Explain the factors influencing the rate of a reaction

(or)

Explain the mechanism of cleansing action of soap.

- 35. a) i)Enumerate the function of blood
 - ii) Define triple fusion.
 - iii) Name two maize hybrids rich in amino acid lysine. (or)
 - c) i) Natural selection is a driving force for evolution how?
 - ii) a pure tall plant (TT) is crossed with pure dwarf plant (tt), what would be the F1 and F2 generations? Explain

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