

परमाणु ऊर्जा शिक्षण संस्था

Atomic Energy Education Society कार्यपत्रक / Worksheet (2025-26)

कक्षा /Class: VIII विषय /Subject:					lonth: AUGUST	अंक/Marks: 40
		ortion covered: Cha e of the student:	apter 2 Powe	er play		
		कक्षा/अनुभाग Cla	ass /Sec.:	_ दिनांक /Date	- :	
		SEC	TION- A (10)	×1= 10 marks		
1 [Express 0.000001		11014-14 (10)	XI= IV marks		
_		11×10^{-6} (c) 1×10^{5}	(d) 1×106			
	. ,	ing is equal to $\frac{2^5}{2^2}$?	(u) 1×10			
	(a) 2^3 (b) 2^7	(c) $2^{2.5}$ (d) 2^{-3}				
<u>3.</u> \	What is the value of	of 3 ⁰ ?				
	(a) Undefined	(b)3 (c)1	(d)0			
<u>4.</u>	Hundred kotis =	:?				
	(a) 1 ayuta	(b)1 niyuta	(c) 1 Kankara	(d) 1 Crore		
<u>5.</u>	1 quadrillion =.	?				
	(a) 10^6 (b)	$(c) 10^9$	(d) 10^{15}			
<u>6.</u>	10^{googol} is calle	d a				
	(a) googolplu	us (b)googolplaza	(c) god	ogolplex (d) g	oogolpledge	
<u>7</u> . up?		esses , 2 hats and 3	pair of shoes	s . How many	different ways can	Ramu dress
	(a) 42 (b) 18	(c) 30 (d) 24				
<u>8.</u>	What is $(-1)^5$?					
	(a) 1 (b) 5	(c) -1 (d) -5				
	•	on describes the thicepresented by the le			after it is folded 10	times? The
	(a) 2 ¹⁰	(b) 2 ¹⁰ v	(c) 10 + v	(d) 10v		
<u>10</u> .	How many time	es larger than 2^{-2} is	2^{2} ?			

(b) 2^{-2}

(c) 2^4

(d) 2^{-4}

(a) 2^2

SECTION- B (04×02= 08 marks)

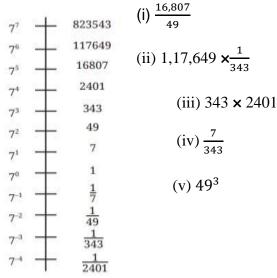
- 11. Express number in standard form 34,30,000
- 12. Write the number in expanded form using power of 10 561.903
- **13.** Simplify $3^2 \times 3^{-5} \times 3^6$
- **14.** Prove that 7^{-7} is inverse of 7^7

SECTION- C (03×03= 09 marks)

- **15.** If $13^2 = 169$ then what is
 - (i) $(1.3)^2$
- (ii) $(0.13)^2$
- (iii) $(130)^2$
- **16.** A digital locker has an alphanumeric (it can have both digits and letters) passcode of length 6. How many such codes are possible?
- **17.** Simplify and write these in exponential form.
- (i) $10^{-2} \times 10^{-5}$ (ii) $9^{-7} \div 9^4$ (iii) $m^5 n^{12} (mn)^9$

SECTION- D $(01\times05=05 \text{ marks})$

18. Use the power line for 7 to answer the following questions.



SECTION- E (02×04= 08 marks)

19. Case Study: During a school science project, students were studying the energy consumption of a powerful machine that multiplies its power output exponentially. The machine was designed to double its power output every hour.

Initially, in the first hour, the machine used 3 units of power.

- (i) Write the general formula using exponents for power used after *n* hours.
- (ii) Calculate the power used after 4 hours.

- (iii) Expand and simplify: 3 x 2³
- (iv) Write the expression for power used after 2 hours.
- **20.** Case Study: In a science journal, students read about the sizes of celestial bodies. The diameter of Earth is approximately 12,742 km, and the diameter of the Sun is about 1,392,000 km.

To compare these large numbers more easily, their teacher advised them to express the values in standard form (also known as scientific notation) using powers of 10.

- (i) Why is standard form useful in scientific calculations?
- (ii) Express the diameter of Earth (12,742 km) in standard form.
- (iii) Express the diameter of the Sun (1,392,000 km) in standard form.
- (iv) Write the ratio of the Sun's diameter to the Earth's diameter using their standard forms.