

NEET NUCLEI — SIZE OF THE NUCLEUS — PYQS

Max. Marks: 36

Questions: 9

Section A (MCQ) — 9 questions

- Q.1** Four statements are given (A is mass number) :
- A. The volume of a nucleus is proportional to $A^{1/3}$.
 - B. The volume of a nucleus is proportional to A.
 - C. The difference in mass of an atom and its nucleus is called the mass defect.
 - D. The difference in mass of a nucleus and its constituents is called the mass defect.
- Choose the correct answer from the options given below : [NEET (UG) 2026]

- (1) A and D are true, but B and C are false
- (2) B and D are true, but A and C are false
- (3) B and C are true, but A and D are false
- (4) A and C are true, but B and D are false

 Scan or tap for the
full solution


- Q.2** An unknown nucleus has a nuclear density of $2.29 \times 10^{17} \text{ kg/m}^3$ and mass of $19.926 \times 10^{-27} \text{ kg}$. Its mass number A is approximately :
(Take $R_0 = 1.2 \times 10^{-15} \text{ m}$, $4\pi = 12.56$)

[NEET (UG) 2026]

- (1) 16
- (2) 20
- (3) 12
- (4) 19

 Scan or tap for the
full solution


- Q.3** A nucleus of mass number 189 splits into two nuclei having mass number 125 and 64. The ratio of radius of two daughter nuclei respectively is

[NEET (UG) 2022]

- (1) 1:1
- (2) 4:5
- (3) 5:4
- (4) 25:16

 Scan or tap for the
full solution


- Q.4** If radius of the $^{27}_{13}\text{Al}$ nucleus is taken to be R_{Al} , then the radius of $^{125}_{53}\text{Te}$ nucleus is nearly

[AIPMT 2015 (Cancelled)]

- (1) $\frac{3}{5} R_{\text{Al}}$
- (2) $\left(\frac{13}{53}\right)^{1/3} R_{\text{Al}}$
- (3) $\left(\frac{53}{13}\right)^{1/3} R_{\text{Al}}$
- (4) $\frac{5}{3} R_{\text{Al}}$

 Scan or tap for the
full solution


- Q.5** If the nuclear radius of $^{27}_{13}\text{Al}$ is 3.6 fermi, the approximate nuclear radius of $^{64}_{28}\text{Cu}$ in fermi is

[AIPMT 2012 (Prelims)]

- (1) 2.4
- (2) 1.2
- (3) 4.8
- (4) 3.6

 Scan or tap for the
full solution


- Q.6** Two nuclei have their mass numbers in the ratio of 1 : 3. The ratio of their nuclear densities would be

[AIPMT 2008]

- (1) $(3)^{1/3}:1$
- (2) 1 : 1
- (3) 1 : 3
- (4) 3 : 1

 Scan or tap for the
full solution


- Q.7** If the nucleus $^{27}_{13}\text{Al}$ has a nuclear radius of about 3.6 fm, then $^{125}_{52}\text{Te}$ would have its radius approximately as

[AIPMT 2007]

- (1) 9.6 fm
- (2) 12.0 fm
- (3) 4.8 fm
- (4) 6.0 fm

 Scan or tap for the
full solution


- Q.8** The radius of germanium (Ge) nuclide is measured to be twice the radius of ^9_4Be . The number of nucleons in Ge are

[AIPMT 2006]

- (1) 72
- (2) 73
- (3) 74
- (4) 75

 Scan or tap for the
full solution


- Q.9** The volume occupied by an atom is greater than the volume of the nucleus by a factor of about

[AIPMT 2003]

- (1) 10^1
- (2) 10^5
- (3) 10^{10}
- (4) 10^{15}

 Scan or tap for the
full solution


ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9		
Ans.	2	3	3	4	3	2	4	1	4		