NDA-CDS 1 2025

GS

LIVE

PHYSICS

NUCLEUS & RADIOACTIVITY

MCQS

NAVJYOTI SIR

SSBCrack EXAMS

07 Feb 2025 Live Classes Schedule

9:00AM	07 FEBRUARY 2025 DAILY DEFENCE UPDATES	DIVYANSHU SIR
10:00AM	07 FEBRUARY 2025 DAILY CURRENT AFFAIRS	RUBY MA'AM

SSB INTERVIEW LIVE CLASSES

9:30AM	OVERVIEW OF PPDT & PRACTICE	ANURADHA MA'AM

AFCAT 1 2025 LIVE CLASSES

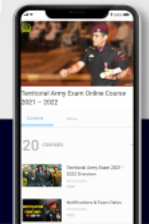
3:00PM	STATIC GK - HIGHEST SMALLEST IN INDIA & WORLD	DIVYANSHU SIR
4:30PM	ENGLISH - FILL IN THE BLANKS - CLASS 1	ANURADHA MA'AM
5:30PM	MATHS - PROBABILITY	NAVJYOTI SIR

NDA 1 2025 LIVE CLASSES

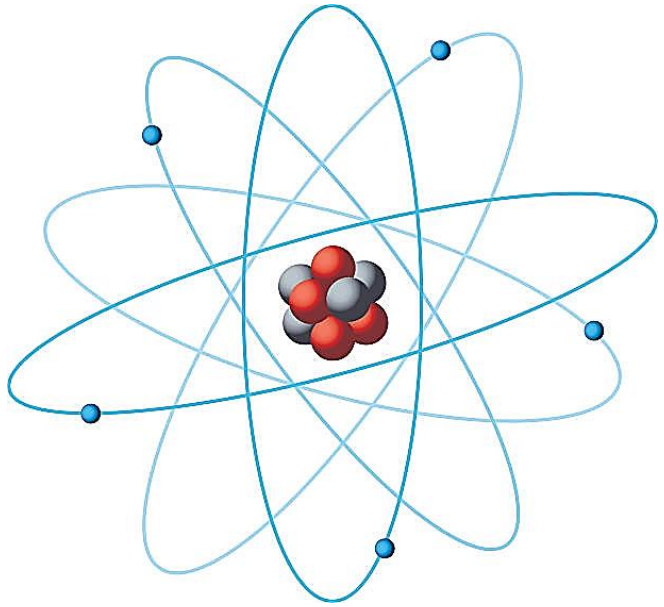
10:00AM	MATHS - SEQUENCE & SERIES - CLASS 2	NAVJYOTI SIR
11:30AM	POLITY - CLASS 2	RUBY MA'AM
1:00PM	PHYSICS - NUCLEUS & RADIOACTIVITY	NAVJYOTI SIR
4:30PM	ENGLISH - FILL IN THE BLANKS - CLASS 1	ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

11:30AM	POLITY - CLASS 2	RUBY MA'AM
1:00PM	HYSICS - NUCLEUS & RADIOACTIVITY	NAVJYOTI SIR
4:30PM	ENGLISH - FILL IN THE BLANKS - CLASS 1	ANURADHA MA'AM



NUCLEUS & RADIOACTIVITY - MCQs



The hydrogen bomb and the uranium bomb are based, respectively on

(a) nuclear fusion and fission

(b) fission and thermonuclear fusion

(c) geothermal fission and fusion

(d) geothermal fusion and fission

Hydrogen bomb ⟶ nuclear fusion (Lighter nuclei combine to form heavier nuclei)

Uranium bomb ⟶ nuclear fission (Heavier split into lighter)

The hydrogen bomb and the uranium bomb are based, respectively on

(a) nuclear fusion and fission

(b) fission and thermonuclear fusion

(c) geothermal fission and fusion

(d) geothermal fusion and fission

Answer: (A)

Nuclear energy is generated by

(a) nuclear fission and its expression was proposed by Einstein.

(b) nuclear fission and its expression was proposed by Rutherford.

(c) nuclear fusion and its expression was proposed by Bohr.

(d) nuclear fusion and its expression was proposed by Heisenberg.

nuclear fission

Einstein → mass energy equivalence

$E = mc^2$

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(b) nuclear fission and its expression was proposed by Rutherford.

(c) nuclear fusion and its expression was proposed by Bohr.

(d) nuclear fusion and its expression was proposed by Heisenberg.

Answer: (A)

The rest mass of Higgs boson is estimated to be close to

(a) 0·5 MeV

(b) 900 MeV

(c) 100 GeV

(d) 1000 GeV

~ 125 GeV

The rest mass of Higgs boson is estimated to be close to

(a) 0·5 MeV

(b) 900 MeV

(c) 100 GeV

(d) 1000 GeV

Answer: (C)

Of the following, which does ***not*** belong to a nuclear reactor ?

(a) A turbine

(b) A heat exchanger

(c) A mechanism to reduce CO_2 emission

(d) A reaction chamber

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(a) A turbine

(b) A heat exchanger

(c) A mechanism to reduce CO_2 emission

(d) A reaction chamber

Answer: (C)

Which one of the following is not a form of stored energy?

(a) Nuclear energy
(b) Potential energy
(c) Electrical energy
(d) Chemical energy

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(a) Nuclear energy
(b) Potential energy
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(d) Chemical energy

Electrical energy, unlike the other forms, is not typically considered a stored energy but rather the energy associated with the flow of electric charge.

Answer: (C)

The main source of energy of the sun is

(a) fusion of heavy nuclei
(b) fusion of light nuclei ✓
(c) fission of light nuclei
(d) Both fusion and fission

nuclear fusion — Lighter nuclei combine to form heavier nuclei

The main source of energy of the sun is

(a) fusion of heavy nuclei
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Answer: (B)

A nuclear reactor is a device to produce nuclear energy with the help of

(a) nuclear fusion or
(b) uncontrolled chain reaction → Atom Bomb
(c) controlled chain reaction → nuclear reactor
(d) graphite as fuel

A nuclear reactor is a device to produce nuclear energy with the help of

(a) nuclear fusion
(b) uncontrolled chain reaction
(c) controlled chain reaction
(d) graphite as fuel

Answer: (C)

Nuclear forces are stronger than

(a) magnetic force

(b) gravitational force

(c) electrostatic force

(d) All of the above

Nuclear forces are stronger than

(a) magnetic force

(b) gravitational force

(c) electrostatic force

(d) All of the above

Answer: (D)

If the nuclear forces between two protons, two neutrons and between proton and neutron is denoted F_{pp}, F_{nn} and F_{pn} respectively, then

(a) $F_{pp} = F_{pn} = F_{nn}$ (b) $F_{pp} = F_{pn} \neq F_{nn}$

(c) $F_{pp} = F_{nn} \neq F_{pn}$ (d) $F_{pp} \neq F_{pn} \neq F_{nn}$

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Answer: (A)