

## AFNS TEST 01-02 October 2025

**Question:** From the third month of pregnancy, the embryo is known as?

**Correct Answer:** Fetus

**Explanation:** After 8 weeks of development, embryo becomes fetus until birth.

**Related Question 1:** What is the average gestation period in humans?

**Correct Answer:** 9 months (280 days)

**Related Question 2:** Which organ connects fetus with mother?

**Correct Answer:** Placenta



# AFNS ACADEMIC NOTES

## ARMED FORCES NURSING SERVICES



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**Question:** During the gestation period, the waste products of the fetus are stored in which structure?

**Correct Answer:** Allantois

**Explanation:** Allantois stores nitrogenous wastes and contributes to umbilical cord.

**Related Question 1:** Which membrane surrounds the embryo?

**Correct Answer:** Amnion

**Related Question 2:** Which membrane provides nourishment in birds?

**Correct Answer:** Yolk sac

## AFNS TEST 01-02 October 2025

**Question:** What is the term for different colors in color blindness?

**Correct Answer:** Daltonism / Color vision deficiency

**Explanation:** Caused by cone defects (protanopia, deuteranopia, tritanopia).

**Related Question 1:** Who first described color blindness?

**Correct Answer:** John Dalton

**Related Question 2:** Which chromosome carries the color blindness gene?

**Correct Answer:** X chromosome

## AFNS TEST 01-02 October 2025

**Question:** Which hydrocarbon has greater C–C bond length: ethane or ethene?

**Correct Answer:** Ethane

**Explanation:** Single bonds (~154 pm) are longer than double bonds (~134 pm).

**Related Question 1:** C–C bond length in benzene is?

**Correct Answer:** 140 pm

**Related Question 2:** Bond angle in ethene is?

**Correct Answer:** 120°

## AFNS TEST 01-02 October 2025

**Question:** If the velocity of a body doubles, its kinetic energy becomes?

**Correct Answer:** Four times

**Explanation:**  $KE \propto v^2$ , so doubling  $v$  makes  $KE \times 4$ .

**Related Question 1:** If mass doubles,  $KE$  becomes?

**Correct Answer:** Double

**Related Question 2:** Formula of  $KE$ ?

**Correct Answer:**  $KE = \frac{1}{2} mv^2$

## AFNS TEST 01-02 October 2025

**Question:** At maximum height of a projectile, acceleration is?

**Correct Answer:**  $g$  downward ( $9.8 \text{ m/s}^2$ )

**Explanation:** Only gravity acts, vertical velocity is zero but acceleration remains.

**Related Question 1:** At maximum height, vertical velocity is?

**Correct Answer:**  $0 \text{ m/s}$

**Related Question 2:** Horizontal velocity at top is?

**Correct Answer:** Constant

## AFNS TEST 01-02 October 2025

**Question:** A ball is thrown at 20 m/s making  $60^\circ$  with the horizontal. What is its velocity at the top point?

**Correct Answer:** 10 m/s (horizontal component)

**Explanation:** Vertical velocity = 0, horizontal =  $u \cos\theta = 20 \times 0.5$ .

**Related Question 1:** Time of flight formula?

**Correct Answer:**  $T = 2u \sin\theta / g$

**Related Question 2:** Maximum height formula?

**Correct Answer:**  $H = (u^2 \sin^2\theta) / 2g$



## AFNS TEST 01-02 October 2025

**Question:** A force of 100 N acts on a body of mass 1 kg for 5 seconds. What is the change in momentum?

**Correct Answer:** 500 Ns

**Explanation:** Impulse =  $F \times t = \Delta p = 100 \times 5$ .

**Related Question 1:** Unit of momentum?

**Correct Answer:** kg·m/s

**Related Question 2:** Momentum is product of?

**Correct Answer:** Mass × velocity

## AFNS TEST 01-02 October 2025

**Question:** Synonym of “rude”?

**Correct Answer:** Impolite

**Explanation:** Rude means lacking respect → impolite.

**Related Question 1:** Synonym of “happy”?

**Correct Answer:** Joyful

**Related Question 2:** Synonym of “angry”?

**Correct Answer:** Furious

## AFNS TEST 01-02 October 2025

**Question:** Synonym of “ravine”?

**Correct Answer:** Gorge

**Explanation:** Ravine means narrow deep valley.

**Related Question 1:** Synonym of “tiny”?

**Correct Answer:** Minute

**Related Question 2:** Synonym of “huge”?

**Correct Answer:** Enormous

## AFNS TEST 01-02 October 2025

**Question:** In an RC circuit, the capacitor charges or discharges quickly when?

**Correct Answer:** RC value is small

**Explanation:** Smaller time constant ( $\tau = RC$ ) means faster charging.

**Related Question 1:** Unit of capacitance?

**Correct Answer:** Farad

**Related Question 2:** Unit of resistance?

**Correct Answer:** Ohm

## AFNS TEST 01-02 October 2025

**Question:** Bryophytes are?

**Correct Answer:** Non-vascular plants

**Explanation:** Lack xylem and phloem, reproduce via spores.

**Related Question 1:** Example of bryophyte?

**Correct Answer:** Moss

**Related Question 2:** Bryophytes are called?

**Correct Answer:** Amphibians of plant kingdom

## AFNS TEST 01-02 October 2025

**Question:** Antimony (Sb) is identified as?

**Correct Answer:** Metalloid

**Explanation:** Shows both metallic and nonmetallic properties.

**Related Question 1:** Example of another metalloid?

**Correct Answer:** Boron

**Related Question 2:** Atomic number of Sb?

**Correct Answer:** 51

## AFNS TEST 01-02 October 2025

**Question:** Potential difference of 40 kV corresponds to wavelength of approx.?

**Correct Answer:** 6.1 pm

**Explanation:**  $\lambda = hc/eV$ ; high-energy electrons yield X-rays.

**Related Question 1:** Symbol of Planck's constant?

**Correct Answer:** h

**Related Question 2:** Value of c (speed of light)?

**Correct Answer:**  $3 \times 10^8$  m/s

## AFNS TEST 01-02 October 2025

**Question:** Antonym of “ugliness”?

**Correct Answer:** Beauty

**Explanation:** Ugliness = unattractiveness; opposite = beauty.

**Related Question 1:** Antonym of “failure”?

**Correct Answer:** Success

**Related Question 2:** Antonym of “dark”?

**Correct Answer:** Light



## AFNS TEST 01-02 October 2025

**Question:** If focal length corresponds to 4 diopters, what is the distance?

**Correct Answer:** 25 cm

**Explanation:**  $f = 1/P = 1/4 = 0.25 \text{ m} = 25 \text{ cm}$ .

**Related Question 1:** Formula for power of lens?

**Correct Answer:**  $P = 100/f \text{ (cm)}$

**Related Question 2:** SI unit of focal length?

**Correct Answer:** Meter

## AFNS TEST 01-02 October 2025

**Question:** Kirchhoff's second law is applied in?

**Correct Answer:** Closed loops of electrical circuits

**Explanation:** KVL  $\rightarrow \Sigma \text{EMF} = \Sigma IR$  in a loop.

**Related Question 1:** Kirchhoff's first law is law of?

**Correct Answer:** Current (KCL)

**Related Question 2:** KCL is based on which law?

**Correct Answer:** Law of conservation of charge

## AFNS TEST 01-02 October 2025

**Question:** Buyer's reagent is used for?

**Correct Answer:** Detecting aldehydes

**Explanation:** Used to test carbonyl compounds in organic chemistry.

**Related Question 1:** Tollen's reagent gives which test?

**Correct Answer:** Silver mirror test

**Related Question 2:** Fehling's reagent detects?

**Correct Answer:** Reducing sugars