

OUSSSC Constable (Communication) Special Paper 2026

FREE DEMO

10 Important Questions from 15 Full Mock Tests

Special Paper B (Constable Communication) – with Full Solutions

MOCK TEST DETAILS	
Paper	Special Paper B – Constable (Communication), +2 Science Standard
Total Mock Tests	15 Full Mock Tests
Mock Level	Easy – 5 · Moderate – 8 · Hard – 2
Questions per Test	100 MCQ – Physics 50, Computer Science 50
Marks & Time	300 marks (3 per question) · 120 minutes · -0.75 per wrong answer
Total Questions	1,500 questions, each with full explanation
Language	English
Available in App	Mock Test (Exam) + Quiz – Tech Of World App

MOCK LEVEL BREAK-UP

5 Easy Mock Tests	8 Moderate Mock Tests	2 Hard Mock Tests	15 Total
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This demo: 10 questions – Easy 7 · Moderate 3 – with full solutions

10 IMPORTANT MOCK TEST QUESTIONS – FREE DEMO

Hand-picked from 7 of the 15 Special Paper B Full Mock Tests (Easy & Moderate) – Physics and Computer Science – with the same step-by-step solutions you get in the full pack.

Q-1 Which of the following is a diamagnetic substance?

- (A) Iron
- (B) Aluminium
- (C) Bismuth
- (D) Nickel

ANS- (C) Bismuth

Explanation: A **diamagnetic** substance is weakly **repelled** by a magnet. When placed in a magnetic field it gets magnetised in the opposite direction, so its susceptibility χ is small and **negative**. **Bismuth** is one of the strongest diamagnetic solids; copper, water, gold and silver are other examples.

Type	Susceptibility χ	Examples
Diamagnetic	Small, negative	Bismuth, copper, water
Paramagnetic	Small, positive	Aluminium, sodium, oxygen
Ferromagnetic	Very large, positive	Iron, nickel, cobalt

Key Points:

- ✦ *Superconductors:* **Perfect diamagnets** ($\chi = -1$), the Meissner effect
- ✦ *Diamagnetism and temperature:* **Almost independent of temperature**
- ✦ *Curie temperature:* **Above it, a ferromagnet becomes paramagnetic**

Other Options:

(A) Iron — Ferromagnetic; strongly attracted and used in electromagnets and transformer cores.

(B) Aluminium — Paramagnetic; weakly attracted towards a strong magnet.

(D) Nickel — Ferromagnetic, like iron and cobalt.

Q-2 The power of a convex lens of focal length 25 cm is

- (A) -4 D
- (B) $+0.25\text{ D}$
- (C) $+4\text{ D}$
- (D) $+25\text{ D}$

ANS- (C) $+4\text{ D}$

Given:

→ Convex lens, $f = +25\text{ cm} = +0.25\text{ m}$

Concept:

→ Power $P = \frac{1}{f}$ with f in metres; unit dioptre (D). Convex lens: f and P positive

Solution:

$$\rightarrow P = \frac{1}{0.25}$$

$$\Rightarrow P = +4 \text{ D}$$

$\therefore$ Ans: (C) +4 D

Hint:

$\rightarrow$ Trap: using f in cm gives $\frac{1}{25} = 0.04$, and $\frac{100}{f}$ is the quick form for cm. A concave lens of 25 cm would have -4 D (option A).

Q-3 An IPv4 address is made up of how many bits?

- (A) 32
- (B) 64
- (C) 128
- (D) 48

ANS- (A) 32

Explanation: An IPv4 address has **32 bits**. It is written as four numbers (octets) of 8 bits each, separated by dots, and each octet is from 0 to 255. IPv4 can give 2^{32} , about 4.29 billion, addresses.

Octet	Decimal	Binary
1st	192	11000000
2nd	168	10101000
3rd	10	00001010
4th	5	00000101

Key Points:

- ✦ *Newer version:* **IPv6** was made **because IPv4 addresses are running short**
- ✦ *Special address:* **127.0.0.1** is the loopback address of one's own computer
- ✦ *Private block:* **10.0.0.0 to 10.255.255.255** is kept for private networks

Other Options:

(B) 64 — It is the size of a word in a 64-bit processor.

(C) 128 — It is the size of an IPv6 address, written in hexadecimal.

(D) 48 — It is the size of a MAC address, written as six hexadecimal pairs.

Q-4 The SI unit of inductive reactance is

- (A) Henry
- (B) Tesla
- (C) Ohm
- (D) Weber

ANS- (C) Ohm

Explanation: Inductive reactance is the opposition offered by an inductor to alternating current: $X_L = \omega L = 2\pi f L$. It is the ratio of voltage to current, just like resistance ($X_L = \frac{V}{I}$). So its SI unit is the **ohm** (Ω).

Key Points:

- ✦ *Capacitive reactance:* $X_C = \frac{1}{\omega C}$, also measured in ohm
- ✦ *Impedance of an LCR circuit:* $Z = \sqrt{R^2 + (X_L - X_C)^2}$, in ohm
- ✦ *For DC ($f=0$):* $X_L=0$, so an inductor passes DC freely

Other Options:

- (A) **Henry** — Unit of inductance L itself, not of reactance.
(B) **Tesla** — Unit of magnetic field B .
(D) **Weber** — Unit of magnetic flux.

Q-5 The SI unit of magnetic field (magnetic flux density) is

- (A) Weber
(B) Henry
(C) Tesla
(D) Gauss

ANS- (C) Tesla

Explanation: The SI unit of magnetic field (magnetic flux density) B is the **tesla (T)**, named after Nikola Tesla. From $F = qvB$, a field of 1 T exerts a force of 1 N on a charge of 1 C moving at 1 m/s at right angles to the field. So $1 \text{ T} = 1 \text{ N A}^{-1} \text{ m}^{-1} = 1 \text{ Wb/m}^2$.

Key Points:

- ✦ *Dimensional formula of B :* $[MT^{-2}A^{-1}]$
- ✦ *Earth's magnetic field at the surface:* **of the order of 10^{-5} T**
- ✦ *Field in hospital MRI machines:* **About 1.5 T to 3 T**

Other Options:

- (A) **Weber** — It is the SI unit of magnetic flux; $1 \text{ Wb} = 1 \text{ T m}^2$.
(B) **Henry** — It is the SI unit of inductance (self or mutual).
(D) **Gauss** — It is the CGS unit of magnetic field; $1 \text{ G} = 10^{-4} \text{ T}$.

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Q-6 The octal equivalent of $(3C)_{16}$ is

- (A) $(60)_8$
(B) $(74)_8$
(C) $(36)_8$
(D) $(314)_8$

ANS- (B) $(74)_8$

Explanation: To change hexadecimal to octal, first write each hex digit in 4 bits and then regroup in 3 bits. $3 = 0011$ and $C = 1100$, so $(3C)_{16} = 00111100$. Regrouped from the right as 000 111 100 it is 0, 7, 4, so the octal value is $(74)_8$.

Step	Value
Hex	3 C
Binary	0011 1100
Groups of 3	111 100
Octal	7 4

Key Points:

- ✦ *Shortcut via decimal:* $60 \div 8 = 7$, remainder 4
- ✦ *Check:* $7 \times 8 + 4 = 60$
- ✦ *Bits per octal digit:* 3

Other Options:

- (A) $(60)_8$ — $(60)_8$ is 48 in decimal; the number 60 is the decimal value of $(3C)_{16}$.
 (C) $(36)_8$ — $(36)_8$ is 30 in decimal, which is not the value of $(3C)_{16}$.
 (D) $(314)_8$ — $(314)_8$ is 204 in decimal, far above 60.

Q-7 The decimal equivalent of $(54)_8$ is

- (A) 54
 (B) 36
 (C) 40
 (D) 44

ANS- (D) 44

Explanation: In octal each digit has a place value that is a power of 8, so $(54)_8 = 5 \times 8 + 4 = 44$.

Digit	Place value	Value
5	8 (8 to the power 1)	40
4	1 (8 to the power 0)	4
Total		44

Key Points:

- ✦ *Octal digits:* Only 0 to 7 are used
- ✦ *Bits per octal digit:* 3, so $(54)_8 = 101100$ in binary
- ✦ *Real use:* Unix file permissions such as 755

Other Options:

- (A) 54 — This is the decimal number that equals (66) in octal, because $6 \times 8 + 6 = 54$.
 (B) 36 — In octal 36 is written (44), because $4 \times 8 + 4 = 36$.
 (C) 40 — It is 5×8 only, leaving out the 4; in octal 40 is written (50).

Q-8 How many bits are there in 2 bytes?

- (A) 8
 (B) 4

- (C) 32
(D) 16

ANS- (D) 16

Explanation: 1 byte = 8 bits, so 2 bytes = $2 \times 8 = 16$ bits.

Unit	Bits
1 nibble	4
1 byte	8
2 bytes	16
4 bytes	32

Key Points:

- ♦ 1 KB: $2^{10} = 1024$ bytes
- ♦ Smallest unit of data: **1 bit**
- ♦ Character in ASCII: **Needs 1 byte**

Other Options:

- (A) 8 — This is the number of bits in just 1 byte.
(B) 4 — This is half a byte, called a nibble.
(C) 32 — This is the number of bits in 4 bytes.

Q-9 The decimal equivalent of $(1A3)_{16}$ is

- (A) 259
(B) 419
(C) 1103
(D) 403

ANS- (B) 419

Explanation: Multiply each hex digit by its power of 16.

$(1A3)_{16} = 1 \times 16^2 + 10 \times 16 + 3 = 256 + 160 + 3 = 419$, since A stands for 10.

Digit	Place value	Value
1	256	256
A (10)	16	160
3	1	3

Key Points:

- ♦ Binary form: $(1A3)_{16} = 000110100011$
- ♦ Octal form: **419 equals $(643)_8$**
- ♦ Digits: **A to F stand for 10 to 15**

Other Options:

- (A) 259 — It is the value of $(103)_{16}$, where the digit A is replaced by 0.
(C) 1103 — It is read by joining the digits 1, 10 and 3 into the number 1103.
(D) 403 — It is the value of $(193)_{16}$, where the digit A is replaced by 9.

Q-10 The number of neutrons in the nucleus ${}_{92}^{235}\text{U}$ is

- (A) 92
- (B) 235
- (C) 143
- (D) 327

ANS- (C) 143

Given:

→ Nucleus ${}_{92}^{235}\text{U}$

→ Atomic number $Z=92$, mass number $A=235$

Concept:

→ Number of neutrons $N = A - Z$

Solution:

→ $N = 235 - 92$

$\Rightarrow N = 143$

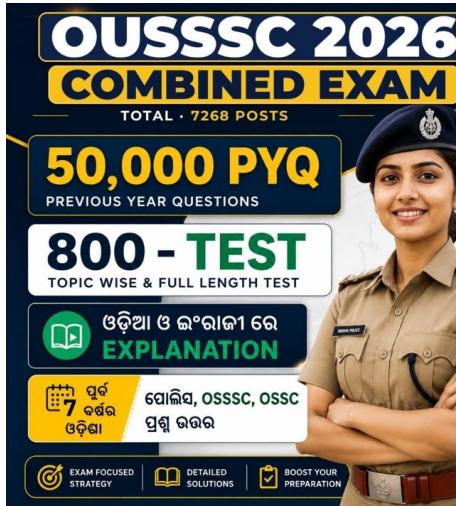
$\therefore$ Ans: (C) 143

Hint:

→ Trap: 92 (A) is the number of protons and 235 (B) is the total number of nucleons.

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