

OUAT 2026 ENTRANCE EXAM

Mock Practice Paper (Physics, Chemistry, Biology, Mathematics)

Physics

1. The dimensional formula for the universal gravitational constant (G) is:

- A) $[M^{-1} L^3 T^{-2}]$
- B) $[M L^2 T^{-2}]$
- C) $[M L^2 T^{-1}]$
- D) $[M^{-2} L^3 T^{-2}]$

2. A uniform wire of resistance R is uniformly stretched to twice its original length. Its new resistance will be:

- A) $R/2$
- B) $2R$
- C) $4R$
- D) $R/4$

3. The magnetic field at the center of a circular current-carrying coil of radius 'r' is proportional to:

- A) r
- B) $1/r$
- C) r^2
- D) $1/r^2$

Chemistry

4. The oxidation state of Chromium (Cr) in Potassium Dichromate ($K_2Cr_2O_7$) is:

- A) +2
- B) +4
- C) +6
- D) +7

5. Which of the following molecules acts as a strong Lewis acid?

- A) NH_3
- B) H_2O
- C) BF_3
- D) CH_4

6. The rate constant of a first-order reaction is 0.693 min^{-1} . Its half-life period is approximately:

- A) 1 minute
- B) 2 minutes
- C) 0.693 minutes
- D) 10 minutes

Biology

7. Double fertilization is a unique and characteristic feature of:

- A) Algae
- B) Fungi
- C) Gymnosperms
- D) Angiosperms

8. The structural and functional unit of the human kidney is known as the:

- A) Neuron
- B) Nephron
- C) Alveoli
- D) Glomerulus

9. Which of the following molecules is widely considered the 'energy currency' of the cell?

- A) DNA
- B) RNA
- C) ATP
- D) NADP

Mathematics

10. The derivative of $\log(\sec x + \tan x)$ with respect to x is:

- A) $\sec x$
- B) $\tan x$
- C) $\sec^2 x$
- D) $\sec x * \tan x$

11. If matrix A is of order $(m \times n)$ and matrix B is of order $(n \times p)$, then the order of the product matrix AB will be:

- A) $n \times n$
- B) $m \times p$
- C) $p \times m$
- D) $m \times n$

12. The value of the indefinite integral $\int e^x(1/x - 1/x^2) dx$ is:

- A) $e^x/x + C$
- B) $e^x + C$
- C) $e^x/x^2 + C$
- D) $x \cdot e^x + C$

Answer Key

Question No.	Correct Option	Question No.	Correct Option
1	A	7	D
2	C	8	B
3	B	9	C
4	C	10	A
5	C	11	B
6	A	12	A