EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
31	50 minutes	3

Name: ..... Class: .....

Date: .....

MARK ____ / 31

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 $3^4 \times 3^2 = \ldots$ (1)

A) 3^6 **B)** 3^8

C) 9^6 **D)** 3^2

1.2 $(2x^3)^4 = \ldots$ (1)

A) $8x^{12}$ **B)** $16x^{12}$

C) $16x^7$ **D)** $2x^{12}$

1.3 $\frac{15x^7}{3x^2} = \ldots$ (1)

A) $5x^{3,5}$ **B)** $12x^5$

C) $5x^9$ **D)** $5x^5$

1.4 If $x \neq 0$, then $x^0 + 2^0 = \ldots$ (1)

A) 0 **B)** 1

C) 3 **D)** 2

1.5 Which one of the following is EQUAL to $2^3 \times 4^2$? (1)

A) 8^5 **B)** 2^6

C) 2^7 **D)** 8^6

1.6 $(a^2b^3)^2 = \ldots$ (1)

A) a^4b^6 **B)** $2a^2b^3$

C) a^4b^5 **D)** a^2b^6

1.7 $5x^3 + 5x^3 = \ldots$ (1)

A) $10x^3$ **B)** $25x^6$

C) $5x^6$ **D)** $10x^6$

1.8 $\dfrac{x^3 \times x^5}{x^2 \times x^4} = \ldots$ (1)

A) x^4 **B)** x^{14}

C) x^0 **D)** x^2

1.9 If $2^x = 32$, then $x = \ldots$ (1)

A) 16 **B)** 5

C) 4 **D)** 6

1.10 $(-3)^2 \times (-3)^3 = \ldots$ (1)

A) 3^5 **B)** 9^5

C) $(-3)^5$ **D)** $(-3)^6$

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 [11 MARKS]

Simplify the following. Leave your answers with positive exponents.

2.1 $\dfrac{12a^5b^2}{4a^2b^6}$ (4)

2.2 $(2x^2y^3)^3 \times 3x^{-4}$ **(4)**

2.3 Calculate WITHOUT a calculator: $(-3^2)(3)^{-2}$ **(3)**

QUESTION 3 [10 MARKS]

Answer the following WITHOUT using a calculator.

3.1 Calculate: $4^2 - [6 \div (-2)]^3$ **(4)**

3.2 Calculate: $12 \times 7^0 + (5y)^0$, where $y \neq 0$ **(3)**

3.3 Show that 2^{-3} can be written as a common fraction, and give its value. **(3)**

TOTAL: 31 marks

This question paper consists of 3 questions.

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