JavaScript Final Exam Cheat Sheet

Perfect for **last-minute exam revision** (MCQs 35–100 topics)

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1) Strings: Index & Length

```
let s = "JavaScript";
s.length      // 10
s[0]          // 'J'
s[s.length-1]  // 't'
```

Key Rules

- Index starts at **0**
- Last index = `length - 1`
- Accessing out of range → `undefined`

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2) String Methods (Exam Traps)

```
"aaa".replace("a","b");      // "baa" (first only)
"aaa".replaceAll("a","b");  // "bbb"
"JavaScript".toUpperCase();   // "JAVASCRIPT"
"JavaScript".slice(0,4);     // "Java"
```

`replace()` replaces **only the first match**

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3) Type Coercion (VERY IMPORTANT)

`+` Operator

```
4 + "C"     // "4C"
"10" + 2   // "102"
null + 1    // 1
```

`+` with string → **string concatenation**

`- * /` Operators

```javascript
"5" - true     // 4
"10" - "2"     // 8
"" - 1         // -1
undefined + 1  // NaN
```

Boolean Conversion

```javascript
true  → 1
false → 0
```

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4) Numbers

```javascript
Math.round(4.6);  // 5
Math.floor(4.9);  // 4
Math.ceil(4.1);   // 5
Math.random();    // 0–1
parseInt("10");   // 10
parseFloat("3.5"); // 3.5
```

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5) Date & Time (Quick Review)

```javascript
let d = new Date();
typeof d;         // "object"
Date();           // string
```

Month & Day Rules

- Month: **0–11** (Jan = 0)
- Day: **0–6** (Sun = 0)

```javascript
new Date(2024,1,30).getDate(); // 2 (overflow)
```

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6) Functions

```javascript
function test(){
  let x = 10;
}
console.log(typeof x); // undefined
```

Rules

- Variables inside functions are **local**
- Outside access → `undefined`

Return Value

```javascript
function add(a,b){
  return a+b;
}
add(2,3); // 5
```

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7) Switch Statements

```javascript
let x = 2;
switch(x){
  case 1:
    console.log("One");
    break;
  case 2:
    console.log("Two");
    break;
  default:
    console.log("Other");
}
```

Switch Rules

- `break` stops execution
- Without `break` → **fall-through**
- `default` runs if no case matches

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8) Golden Exam Rules (MEMORIZE)

- String index starts at **0**
- `length - 1` = last index
- `replace()` → first only
- `+` with string → string
- `- * /` → numbers
- `true = 1`, `false = 0`
- `Date()` → string
- `new Date()` → object
- Function variables are **local**

✅ **Use this sheet before the exam and you're covered!**