IBM C1000-112

IBM Quantum Developer Certification Questions & Answers

Exam Summary – Syllabus –Questions

C1000-112

IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X

60 Questions Exam – 73% Cut Score – Duration of 90 minutes

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Know Your C1000-112 Certification Well:

The C1000-112 is best suitable for candidates who want to gain knowledge in the IBM Associate Developer. Before you start your C1000-112 preparation you may struggle to get all the crucial Quantum Developer materials like C1000-112 syllabus, sample questions, study guide.

But don't worry the C1000-112 PDF is here to help you prepare in a stress free manner.
The PDF is a combination of all your queries like-

- What is in the C1000-112 syllabus?
- How many questions are there in the C1000-112 exam?
- Which Practice test would help me to pass the C1000-112 exam at the first attempt?

Passing the C1000-112 exam makes you IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X. Having the Quantum Developer certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

IBM C1000-112 Quantum Developer Certification Details:

Exam Name	IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X
Exam Code	C1000-112
Exam Price	$200 (USD)
Duration	90 mins
Number of Questions	60
Passing Score	73%
Books / Training	**Qiskit Developer Certification Syllabus**, **Study Guide**
Schedule Exam	**Pearson VUE**
Sample Questions	**IBM Quantum Developer Sample Questions**
Practice Exam	**IBM C1000-112 Certification Practice Exam**

C1000-112 Syllabus:

Topic	Details	Weights
Perform Operations on Quantum Circuits	- Construct multi-qubit quantum registers - Measure quantum circuits in classical registers - Use single-qubit gates - Use multi-qubit gates - Use barrier operations - Return the circuit depth - Extend quantum circuits - Return the OpenQASM string for a circuit	47%
Executing Experiments	- Execute a quantum circuit	3%
Implement BasicAer: Python-based Simulators	- Use the available simulators	3%
Implement Qasm	- Read a QASM file and string	1%
Compare and Contrast Quantum Information	- Use classical and quantum registers - Use operators - Measure fidelity	10%
Return the Experiment Results	- Return and understand the histogram data of an experiment - Return and understand the statevector of an experiment - Return and understand the unitary of an experiment	7%
Use Qiskit Tools	- Monitor the status of a job instance	1%
Display and Use System Information	- Perform operations around the Qiskit version - Use information gained from %quiskit_backend_overview	3%
Construct Visualizations	- Draw a circuit - Plot a histogram of data - Plot a Bloch multivector - Plot a Bloch vector - Plot a QSphere - Plot a density matrix - Plot a gate map with error rates	19%
Access Aer Provider	- Access a statevector_simulator backend - Access a qasm_simulator backend - Access a unitary_simulator backend	6%

IBM C1000-112 Sample Questions:

Question: 1

Which two options would place a barrier across all qubits to the QuantumCircuit below?

qc = QuantumCircuit(3,3)

a) qc.barrier(qc)
b) qc.barrier([0,1,2])
c) qc.barrier()
d) qc.barrier(3)
e) qc.barrier_all()

Answer: b, c

Question: 2

What would be the fidelity result(s) for these two operators, which differ only by global phase?

op_a = Operator(XGate())

op_b = numpy.exp(1j * 0.5) * Operator(XGate())

a) state_fidelity() of 1.0
b) state_fidelity() and average_gate_fidelity() of 1.0
c) average_gate_fidelity() and process_fidelity() of 1.0
d) state_fidelity(), average_gate_fidelity() and process_fidelity() of 1.0

Answer: c

Question: 3

Given this code fragment, what is the probability that a measurement would result in |0>?

qc = QuantumCircuit(1)

qc.ry(3 * math.pi/4, 0)

a) 0.8536
b) 0.5
c) 0.1464
d) 1.0

Answer: c

Question: 4

Which code fragment will produce a maximally entangled, or Bell, state?

a) bell = QuantumCircuit(2)
   bell.h(0)
   bell.x(1)
   bell.cx(0, 1)
b) bell = QuantumCircuit(2)
   bell.cx(0, 1)
   bell.h(0)
   bell.x(1)
c) bell = QuantumCircuit(2)
   bell.h(0)
   bell.x(1)
   bell.cz(0, 1)
d) bell = QuantumCircuit(2)
   bell.h(0)
   bell.h(0)

Answer: a

Question: 5

Which code fragment would yield an operator that represents a single-qubit X gate?

a) op = Operator.Xop(0)
b) qc = QuantumCircuit(1)
e) qc.x(0)
f) op = Operator(qc)
c) op = Operator([[0,1]])
d) op = Operator([[1,0,0,1]])

Answer: b

Question: 6

Which line of code would assign a statevector simulator object to the variable backend?

a) backend = BasicAer.StatevectorSimulatorPy()
b) backend = BasicAer.get_backend('statevector_simulator')
c) backend = BasicAer.StatevectorSimulatorPy().name()
d) backend = BasicAer.get_back('statevector_simulator')

Answer: b

Question: 7

Which statement will create a quantum circuit with four quantum bits and four classical bits?

a) QuantumCircuit(4, 4)
b) QuantumCircuit(4)
c) QuantumCircuit(QuantumRegister(4, 'qr0'), QuantumRegister(4, 'cr1'))
d) QuantumCircuit([4, 4])

Answer: a

Question: 8

Which three simulators are available in BasicAer?

a) qasm_simulator
b) basic_qasm_simulator
c) statevector_simulator
d) unitary_simulator
e) quantum_simulator
f) quantum_circuit_simulator

Answer: a, c, d

Question: 9

Which code fragment will produce a multi-qubit gate other than a CNOT?

a) qc.cx(0,1)
b) qc.cnot(0,1)
c) qc.mct([0],1)
d) qc.cz(0,1)

Answer: d

Question: 10

S-gate is a Qiskit phase gate with what value of the phase parameter?

a) π/8
b) π/4
c) π
d) π/2

Answer: d

Study Guide to Crack IBM Quantum Developer C1000-112 Exam:

- Getting details of the C1000-112 syllabus, is the first step of a study plan. This pdf is going to be of ultimate help. Completion of the syllabus is must to pass the C1000-112 exam.
- Making a schedule is vital. A structured method of preparation leads to success. A candidate must plan his schedule and follow it rigorously to attain success.
- Joining the IBM provided training for C1000-112 exam could be of much help. If there is specific training for the exam, you can discover it from the link above.
- Read from the C1000-112 sample questions to gain your idea about the actual exam questions. In this PDF useful sample questions are provided to make your exam preparation easy.
- Practicing on C1000-112 practice tests is must. Continuous practice will make you an expert in all syllabus areas.