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NPTEL

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Unit 4 - Week 1 : Unit 1

Register for Certification exam

Course outline

How to access the portal

Prerequisite

Week 1 : Unit 1

- Lecture 01 : Introduction to Blockchain – I (Basics)
- Lecture 02 : Introduction to Blockchain – II (History)
- Lecture 03 : Introduction to Blockchain – III (Architecture)
- Lecture 04 : Introduction to Blockchain – IV (Conceptualization)
- Lecture 05 : Basic Crypto Primitives – I
- Lecture Materials
- Feedback for Week 1
- Quiz : Assignment 1

Week 2 : Unit 2

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Assignment 1

The due date for submitting this assignment has passed. **Due on 2019-02-13, 23:59 IST**
As per our records you have not submitted this assignment.

1) Which of the following constitute(s) as the main component(s) of the meta-data for a block in blockchain? ***1 point***

- [ ] Transaction ID
- [ ] Previous Block Hash
- [ ] Merkle Root
- [ ] Mining Statistics

No, the answer is incorrect.
Score: 0

Accepted Answers:
Previous Block Hash
Merkle Root
Mining Statistics

2) Which of the following is a *wrong* statement about a *cryptographic hash function*: ***1 point***

- given the same message the hash function would return the same hash
- it is difficult to generate the original message from the hash
- a small change in the message does not impact the hash
- it is difficult to find two different messages with same hash

No, the answer is incorrect.
Score: 0

Accepted Answers:
a small change in the message does not impact the hash

3) Considering *Bitcoin*, after a new block is mined it is appended to --- ***1 point***

- the longest chain with maximum total work done over all the blocks
- the longest chain with maximum number of blocks
- the longest chain with maximum total amount of transaction done over all the blocks
- the longest chain with maximum number of transactions for all the blocks

No, the answer is incorrect.
Score: 0

Accepted Answers:
the longest chain with maximum total work done over all the blocks

4) Considering *Bitcoin*, which of the following act analogous to the traditional bank account number for an individual: ***1 point***

- Public-key encrypted transactions for an individual
- Cryptographically generated addresses computed by wallet applications
- Final computed block hash

- {1,2,12,3,4,34,1234,5,6,56,7,8,78,5678,12345678}
- {1,12,2,1234,3,34,4,12345678,5,56,6,5678,7,78,8}
- {12345678,1234,12,1,2,34,3,4,5678,56,5,6,78,7,8}
- {12345678,1234,5678,12,34,56,78,1,2,3,4,5,6,7,8}

No, the answer is incorrect.
Score: 0

Accepted Answers:
{1,12,2,1234,3,34,4,12345678,5,56,6,5678,7,78,8}

6) Considering *Bitcoin*, which of the following component help determine the difficulty of the mining algorithm: ***1 point***

- Transaction count
- Nonce
- Timestamp

No, the answer is incorrect.
Score: 0

Accepted Answers:
Nonce

7) Which of the following property ensures that all local copies in the blockchain are updated and consistent? ***1 point***

- Privacy
- Consensus
- Security
- Authenticity

No, the answer is incorrect.
Score: 0

Accepted Answers:
Consensus

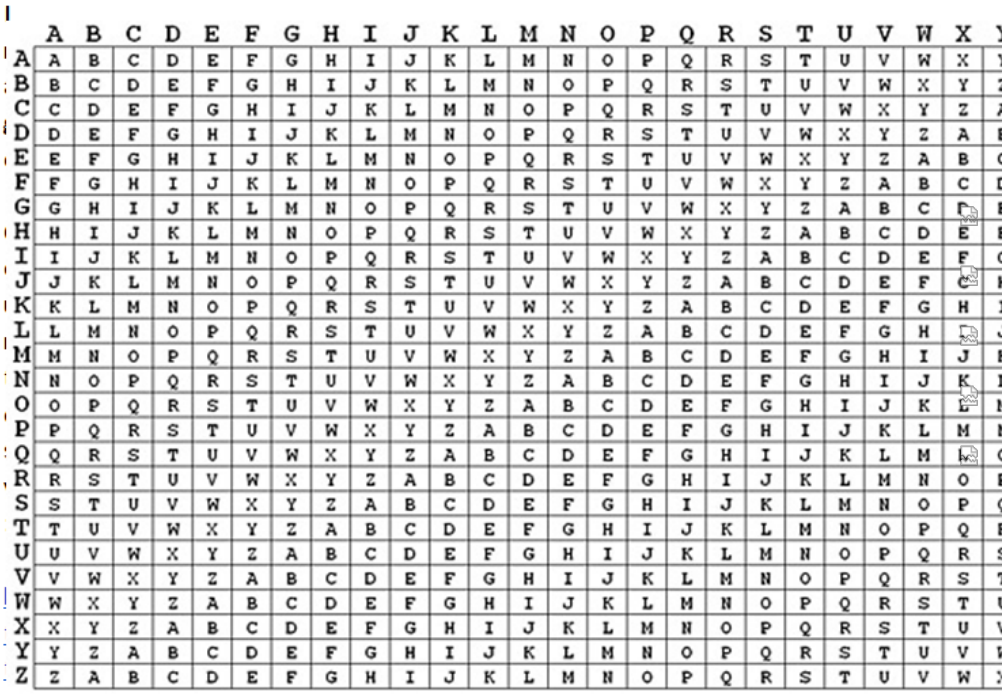
8) Which of the following is used to ensure consensus in a Permissionless Blockchain Environment? ***1 point***

- Proof of Work
- Proof of Stake
- Paxos Consensus
- Byzantine Fault Tolerance

No, the answer is incorrect.
Score: 0

Accepted Answers:
Proof of Work
Proof of Stake

9) Considering the table for Vigenere Cipher given in the figure below. Which of the following represent the cipher text for the message text: “BLOCKCHAIN” given the keyword is “NPTEL”? ***1 point***



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
B	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
C	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
D	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
E	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
F	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
G	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
H	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
I	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
J	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
K	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
L	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
M	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
N	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
O	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
P	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Q	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
R	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
S	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
T	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
U	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
V	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
W	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
X	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
Y	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Z	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X

- OAHGVPWTMX
- OAGHVPWTMY
- OAHGVPWTMY
- OAHGVWPTMY

No, the answer is incorrect.
Score: 0

Accepted Answers:
OAHGVPWTMY

10)As per modular arithmetic which of the following is *congruent* to x ≡6 mod 11 ***1 point***

- 133 + 533
- 142 + 224
- 121 + 525
- 300 + 106

No, the answer is incorrect.
Score: 0

Accepted Answers:
133 + 533

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