

nformation

aste

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**Information is delicious !
“Information Taste” is a tasty IT test.
Hope you learn new things & enjoy !**

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2018

THIS BOOK HAS EXAM-LIKE FORMAT, BUT IT IS NOT AN EXAM , IT IS JUST A BOOK !

- Don't get surprised, it is really just a book, it is not an exam !
The main aim of this book is mentioning some key topics and helping you learn more & wonder more.
This book is not intended to make you a suffering exam.
Notes are preferred to be given in exam format, so exam is just a format, that's all.
If you agree this concept, then there are no question points, no exam duration limit etc.
You will decide how to answer the questions. (with internet or without internet)
Just try to understand and try to answer, don't google immediately from the very first beginning.
→ But if you want answering this test-book as an exam, you can read criterias below.
- Happy testing :)

IF YOU WANT ANSWERING THIS TEST-BOOK AS AN EXAM, YOU CAN READ CRITERIAS BELOW

- This book has 50 questions. So all true options in a question have a total point of 2.
- Total exam duration is 75 minutes. Passing score is at least 70 of 100.
- Exam is documentation/internet closed exam.
- Questions have one or many answers. Questions will ALWAYS say "SELECT ALL THAT APPLY".
Questions will NEVER say "SELECT n THAT APPLY (n = total true option number)"

SCORING ALGORITHM

Think that a question has 5 options (a,b,c,d,e) but answer set is "a" and "c".
Question must have totally "2 points", so "a" is "1 point" + "c" is "1 point".
This makes score of all false options (b,d,e) each having "-1 point" separately.

- * If you dont give any answer (empty question) - your score is already "0 point"
- * If you just answer "a"-> your score is "1 point"
- * If your answers are "a,b,c" -> your score is = $1 + (-1) + 1 = "1 \text{ point}"$
- * If your answers are "b,d,e" -> your score is = $(-1) + (-1) + (-1) = "-3 \text{ points}"$
- * If your answers are "a,b,c,d,e" -> score = $1 + (-1) + 1 + (-1) + (-1) = "-1 \text{ point}"$

Similar example can be given like below

4 options (a,b,c,d) exist for a question. 3 is correct. (a,b,d)

This makes each true option "0,66 point" , which makes any false option (c) having each "-0,66 point"

You can calculate your score accordingly.

- Happy examining :)

SOLUTIONS

- **Solutions are given but they are short descriptions, not whole all story.**

It is your homework to examine in detail if you wondered the rest of story.

If you really wondered something and examined it, this book will succeed its mission.

COMMENTS

- All comments, advises are welcomed in this non-profit hobby activity (bulent.yucesoy@gmail.com)
- **"Information taste" series will continue annually. I will care all comments. (thanks if you comment)**
- I will publish your summarized comments in my web site. (<http://web.itu.edu.tr/~yucesoyb/books>)

Question-1: Which statement(s) are false about Java Garbage Collection (GC) ?

(select all that apply)

- a. GC algorithm name is “mark-and-release” algorithm
- b. GC does not communicate with JNI while working.
- c. GC uses “root objects” while working.
- d. There are serial and paralel GC types called GC1 and GC2.

Question-2: Which command(s) give same output with “awk '!x[\$0]++' FILENAME” command?

(select all that apply)

- a. sort -u FILENAME
- b. cat FILENAME | perl -ne '\${H{\$_}++ or print \$_}'
- c. uniq FILENAME
- d. tac FILENAME | sort

Question-3: How can we see configure options at compilation for binary RPM?

(select all that apply)

- a. querying RPM OPTFLAGS helps but **may not** be all exact options.
- b. looking .spec file from SRPM helps but **may not** be all exact options
- c. install RPM, **sometimes** binaries may report with some command arguments.
(eg: httpd -V)
- d. It is **impossible** to see configure options

Question-4:

```
#!/bin/bash
echo "working"
```

Developer wrote above bash script on windows with notepad++. Then he transferred above script with WinSCP to UNIX active-working FTPS server using binary transfer mode. Script did not work on UNIX.

Which are probable solution(s)?

(select all that apply)

- a. Change cipher at UNIX sshd_config
- b. Change FTPS as working in passive mode and transfer again with binary mode
- c. Transfer in ASCII mode to active-working FTPS
- d. Change “EOL Conversion” to UNIX at notepad++, then transfer in binary mode to passive-working FTPS.

Question-5: Your server could not take IP from DHCP server in same subnet.

Which are meaningful checks for solution?

(select all that apply)

- a. telnet DHCP_SERVER 67
telnet DHCP_SERVER 68
- b. ping SUBNET_BROADCAST_IP
- c. Check network ports are in access-mode at switch side.
- d. Examine packets in promisc mode.

Question-6: Network admins gave you 1 Gbit UTP cable from Cisco core switch. They thought you would plug it into your Linux server. But you plugged it into uplink of your Cisco switch coming inside a hw appliance. Green light is UP but then it goes off and never lights UP again.

Which are probable problem(s)?

(select all that apply)

- a. Two switches could not agree on duplex settings at handshake
- b. There may be a problem at cable
- c. BPDU Guard is active
- d. MTU setting at uplink is higher than MTU setting at core switch.

Question-7: `chmod 660 FILENAME`

Above command is run on an existing file.

Which file status field(s) change when displayed with `stat` command?

(select all that apply)

- a. File Access time
- b. File Modification time
- c. File Change Time
- d. None

Question-8:

```
[server1]/tmp$ls -ltr a.txt
-rw-rw----. 1 user1 group1 1 Oct  4 10:04 a.txt
[server1]/tmp$whoami
user1
[server1]/tmp$id oracle
uid=777(oracle) gid=1001(oinstall)
[server1]/tmp$chown 777 a.txt 2>/dev/null
[server1]/tmp$echo $?
>> YOU ARE EXPECTED TO ANSWER AS "ZERO" or "NON-ZERO"
[server1]/tmp$chmod `echo "9 * 1000 - 440 * 11 + 200" | bc` a.txt 2>/dev/null
[server1]/tmp$echo $?
>> YOU ARE EXPECTED TO ANSWER AS "ZERO" or "NON-ZERO"
[server1]/tmp$
```

What values return from above commands?

- a. zero / zero
- b. non-zero / non-zero
- c. non-zero / zero
- d. zero / non-zero

Question-9: You can't send mail from your company mail server. You want to display your mail server's "Sender Policy Framework" data.

Which DNS record type(s) you must query?

(select all that apply)

- a. MX
- b. SRV
- c. TXT
- d. PTR

Question-10:

which DNS record type(s) you must query to display trust-anchor at DNSSEC?
(select all that apply)

- a. RRSIG
- b. NSEC
- c. DNSKEY
- d. DS

Question-11:

At RHEL 7, which command(s) will find the process which has the thread using maximum non-swapped physical memory?
(select all that apply)

- a. `ps -eLo "res,comm,pid" | sort -rnk1 | head -1`
- b. `top -bH -d 1 -n 1 -o +RES | head -8 | tail -1`
- c. `top -bH -d 1 -n 1 -o +RSS | head -8 | tail -1`
- d. `ps -eLo "rss,comm,pid" | sort -rnk1 | head -1`

Question-12:

```
# whoami
root
# echo -e "newcmd () { \n echo 1 \n }" >> /etc/profile
# echo "alias newcmd='echo 2'" >> /etc/profile
# echo "export newcmd=3" >> /etc/profile
# su - user1
$ echo "export newcmd=4" >> .bash_profile
$ echo "alias newcmd='echo 5'" >> .bash_profile
$ echo "export newcmd=6" >> .profile
$ echo "alias newcmd='echo 7'" >> .profile
$ echo "alias newcmd='echo 8'" >> .bashrc
$ echo "export newcmd=9" >> .bashrc
$ exit
# echo "export newcmd=10" >> /etc/bashrc
# echo "alias newcmd='echo 11'" >> /etc/bashrc
# source /etc/profile
# su - user1
$ newcmd
>> YOU ARE EXPECTED TO FIND THE CORRECT OUTPUT
$ echo $newcmd
>> YOU ARE EXPECTED TO FIND THE CORRECT OUTPUT
$
```

what are the correct outputs?

- a. 1 , 3
- b. 5 , 4
- c. 7 , 6
- d. 8 , 9
- e. 10 , 11

Question-13:

```
# ls -ltr file1
prw-rw-r--. 1 root root 176 Dec 29 2013 file1
# ls -ltr file2
srw-rw-r--. 1 root root 196 Nov 29 2015 file2
```

which of the following(s) are true about above files?
(select all that apply)

- a. file1 is FIFO device.
- b. file1 is LIFO device.
- c. file2 device can only be used locally.
- d. file2 is stack device, it works LIFO.

Question-14:

which command **disables Linux OOM-killer?**

- a. sysctl -w vm.overcommit_memory=0
- b. sysctl -w vm.overcommit_memory=1
- c. sysctl -w vm.overcommit_memory=2
- d. sysctl -w vm.overcommit_memory=3

Question-15:

echo 3 > /proc/sys/vm/drop_caches

which are correct for above command? (**select all that apply**)

- a. running "sync" before above command is an advised practice.
- b. it only drops pagecaches but neither dentries nor inodes
- c. it drops both pagecaches, dentries and inodes
- d. its effects change according to swappiness value.

Question-16:

app is running with user1, has now a PID of 1234.
user1 has soft and hard limit of 1024 for number of open files.
It is necessary to set both limits to 4096.

which below command(s) achieve this without app restart necessity?
(**select all that apply**)

- a. prlimit --pid 1234 --nofile=4096
- b. echo "ulimit -n 4096" >> /home/user1/.bash_profile
- c. echo "user1 soft nofile 4096" >> /etc/security/limits.conf
echo "user1 hard nofile 4096" >> /etc/security/limits.conf
- d. perl -i -p -e "s/1024/4096/" /proc/1234/limits

Question-17:

At RHEL 7, which command(s) show below information?

"which processes and threads are now running on which CPU?"
(**select all that apply**)

- a. ps -eL -o pid,tid,comm,user,seat
- b. ps -eL -o pid,tid,comm,user,label
- c. ps -eL -o pid,tid,comm,user,psr
- d. ps -eL -o pid,tid,comm,user,pgrp

Question-18:

You want to make network sniffing with tcpdump on a vlag tagged interface for only vlan 1234.

which below command(s) can achieve it?
(**select all that apply**)

- a. tcpdump -i eth0 vlan 1234
- b. tcpdump -i eth0 -enn vlan 1234
- c. tcpdump -i eth0 -s 0 - | tcpdump -enn -r - vlan 1234
- d. tcpdump -i eth0 -Uw - | tcpdump -enn -r - vlan 1234

Question-19:

At RHEL 7, which below command(s) can be used to encrypt files?
(select all that apply)

- a. gpg
- b. pgp
- c. openssl
- d. e2image

Question-20:

At RHEL 7, which linux command(s) below supply data wipe-out ?
(select all that apply)

- a. undelete
- b. od
- c. shred
- d. mkfs

Question-21:

which of below statement(s) obey building dockerfile best practices in RedHat OpenShift environments?

(select all that apply)

- a. Combine all system commands in one RUN sentence to decrease image layers
- b. Your last RUN sentence can be yum clean all to decrease image size
- c. For security, assign maximum 775 permission to runtime files, logs etc.
- d. If you need to open port, prefer range above 1024.

Question-22:

which Kubernetes statement(s) below are correct?
(select all that apply)

- a. Default Pod DNS A records are in format
 <pod-name>.<namespace-name>.POD.CLUSTER.LOCAL
- b. Default Service DNS A records are in format
 <service-name>.<namespace-name>.SVC.CLUSTER.LOCAL
- c. Service objects always have IP address.
- d. DNS suffix CLUSTER.LOCAL can't be changed.

Question-23:

which algorithm(s) are not special for use in Blockchain Networks?

(select all that apply)

- a. SBFT
- b. RAFT
- c. KAFKA
- d. MPLS

Question-24:

At RHEL 7, which statement(s) are true about "ls" command?
(select all that apply)

- a. "-n" option gives "UID/GID numbers"
- b. "-i" option gives "inode numbers"
- c. "-L" option gives "major/minor numbers"
- d. "-r" option gives "recursive listing"

Question-25:

Which below .vimrc setting is necessary to check typing errors at vim?

- a. auto-correct on
- b. spell-check on
- c. semantics on
- d. syntax on

Question-26:

At RHEL 7, which statement(s) are true for "dd" command?
(select all that apply)

- a. You can test random write disk io with dd.
- b. You can copy MBR between two disks with dd.
- c. You can't bypass file system cache on dd disk io tests.
- d. You can only measure disk throughput but not latency with dd.
- e. You can use dd to read Oracle ASM disk header.

Question-27:

Which statement(s) are true?
(select all that apply)

- a. RDBMS systems are born from mathematical topic "SETS"
- b. Computers are systems running at modulo 2.
- c. Cryptography generally likes using prime numbers
- d. HASH functions don't have reverse functions.

Question-28:

Which term/concept does not belong to "network virtualization" topic?

- a. VXLAN
- b. ICRL
- c. NFV
- d. Multi-tenancy

Question-29:

You ping default gateway but you receive "IH" response.

What can possible reason(s) be?
(select all that apply)

- a. Your server can't find MAC address of your default gateway.
- b. Your default gateway may have an ACL rejecting ping.
- c. Spanning-tree protocol is activated in your subnet.
- d. Your subnet mask config is wrong in your server settings.

Question-30:

Which network attack(s) use ARP SPOOFING methodology?
(select all that apply)

- a. Denial-Of-Service
- b. Session Hijacking
- c. Backdoor attacks
- d. Man-in-the-Middle attacks

Question 31:

You are the db admin of an application in Blockchain.

Removing usage of which below TSQL queries will be good?
(select all that apply)

- a. INSERT
- b. SELECT
- c. UPDATE
- d. DELETE

Question-32:

which below features are unique to Oracle Solaris but not IBM AIX or Redhat Linux?
(select all that apply)

- a. Pre-empting zombie process without server reboot
- b. Taking differences of two snapshots with native os commands
- c. Automatic snapshots at operating system upgrades
- d. Layer-2 aggregations without any need for network config at switches.

Question-33:

which below command(s) will fail running?
(select all that apply)

- a. ansible all -i localhost -m command -a 'cat /etc/passwd | wc -l'
- b. ansible all -i localhost, -m command -a 'cat /etc/passwd | wc -l'
- c. ansible all -i localhost -m shell -a 'cat /etc/passwd | wc -l'
- d. ansible '*' -i localhost, -m shell -a 'cat /etc/passwd | wc -l'

Question-34:

I have a long running job
Hours later, network security policies dropped my network connection to the server.
I must now re-login to the same session as if i was not dropped and check its work
while it was continuing.

which command(s) help me if i already submitted my job using below command(s)?
(select all that apply)

- a. nohup
- b. screen
- c. tmux
- d. dtach
- e. watch

Question-35:

which statement(s) are true regarding OSI layers?
(select all that apply)

- a. PACKETS at LAYER-3 become to be called SEGMENTS at Layer-4
- b. LACP is a feature operating at Layer-3
- c. Encryption is done at Layer-6 Presentation
- d. Linux HAProxy is a product makes load-balancing at Layer-7

Question-36:

which statement(s) are true regarding SSH features?
(select all that apply)

- a. you can mount remote shares with sshfs
- b. you can use sshuttle to make VPN connections
- c. you cant disable PTR record checking security control of SSH.
- d. SOCKS PROXY is just an SSH tunnel for your applications.
- e. DNS queries cant be sent over SOCKS PROXY.

Question-37:

which terms/concepts/theorems are related to DB systems?
(select all that apply)

- a. ACID
- b. CAP
- c. PACELC
- d. FLP

Question-38:

which below statement(s) are true regarding SSH features?
(select all that apply)

```
ssh -L 9001:example.com:80 destinationsshServerIP
ssh -R 9001:localhost:80 destinationsshServerIP
ssh -ND 9001 destinationsshServerIP
ssh -X -p 9001 destinationsshServerIP
```

- a. Only first two commands use **Port Forwarding** Feature
- b. Only second command provides company intranet web Access from your home PC.
- c. Only third command creates a **SOCKS PROXY**
- d. Only last command uses **SSH Persistence Connection** feature.

Question-39:

which below Linux command has maximum compression ratio?

- a. lz4
- b. gzip
- c. xz
- d. bzip2

Question-40:

which below hadoop file format works in different orientation?

- a. Arrow
- b. Parquet
- c. ORC
- d. Avro

Question-41:

which Linux command(s) operate on ROFF files?
(select all that apply)

- a. groff
- b. nroff
- c. troff
- d. sroff

Question-42:

which statement(s) are true?
(select all that apply)

- a. raid 1+0 has more disk fault tolerance than raid 0+1
- b. raid-2 makes byte level striping
- c. raid-6 has disk fault tolerance for 2 simultaneous disk failures.
- d. raid-z3 is formed with at least 5 disks and has 3 disk fault tolerance.

Question-43:

At RHEL 7, which one is not a **path_selector** value at **Linux MPIO**?

- a. round-rubin 0
- b. queue-length 0
- c. service-time 0
- d. priority-order 0

Question-44:

which statement(s) are true?
(select all that apply)

- a. servers send scsi commands to storage processors through LUNZ disks
- b. vmware "ALUA follow-over" feature is to prevent "path trashing"
- c. round-rubin is a bad io path policy for sequential disk io.
- d. "ano-access of ALUA" serves io faster than "ao-access of ALUA"

Question-45:

which statement(s) are true?
(select all that apply)

- a. online backups taken from snapshots are probable to be more consistent
- b. increasing queue depth decreases io performance due to longer waiting in queue.
- c. SANS return LUN VPD data to SCSI INQUIRY commands.
- d. FORCELIP option is risky so it is safer doing it after stopping whole IO.

Question-46:

which Operating System has builtin BASH utility?

- a. windows 7 64-bit
- b. windows 8 64-bit
- c. windows 10 64-bit
- d. None of windows has it.

Question-47:

which UNIX/Linux Operating System has windows-like Registry?

- a. IBM AIX
- b. Oracle Solaris
- c. RedHat Linux
- d. None

Question-48:

which statement(s) are true?
(select all that apply)

- a. LACP requires 2 ports to be on same network switch
- b. LACP cant be achieved if 2 ports are on different network switch
- c. If server is configed without any network config, active/active LACP may cause "MAC Flapping" at network switch side.
- d. LACP ports must not be trunk ports at network switch side.

Question-49:

which "windows Command / UNIX-Linux command" matching is incorrect?

- a. tasklist/ps
- b. fc/diff
- c. chdir/pwd
- d. runas/su

Question 50:

Find term(s) not inside "Zero Trust Networking" concept?
(select all that apply)

- a. mTLS authentication
- b. Zero-Knowledge-Proof
- c. microsegmentation
- d. Next-Gen Access

SOLUTIONS

Solution-1: Correct answers are “a”, “b” and “d”.
Algorithm name is “mark-and-sweep”. GC uses JNI while examining objects at native memory. There is no GC type called GC2. GC uses root objects while tracking.

Solution-2:
aim is **removing duplicates** inside a file but without sorting file itself.
Correct answers are “c” and “d” options.

Solution-3: Correct answers are “a”, “b” and “c”.

Solution-4:
Correct answers are “c” and “d”.
It is not important whether FTPS is active or passive.
There is windows-UNIX EOL conversion conflict.
Either correct EOL or transfer your script file in ascii mode.

Solution-5:
Correct answers are “c” and “d”.
Telnet port test is not meaningful as DHCP only works UDP-stack and telnet command just tests TCP-stack. Also DHCP works broadcast OK but pinging broadcast ip has no meaningful result for solution.

Solution-6:
Correct answer is “c”
Cisco switch distributes BPDU packets but core switch config has BPDU Guard, so it shutdowns the port.

Solution-7: Correct answer is “c”
Solution-8: Correct answer is “c”
Solution-9: Correct answer is “c”
Solution-10: Correct answer is “c”
Solution-11: Correct answers are “b” and “d”
Solution-12: Correct answer is “b”
Solution-13: Correct answer is “a”. File1 is pipe, file2 is socket.
Solution-14: Correct answer is “c”
Solution-15: Correct answers are “a” and “c”
Solution-16: Correct answer is “a”
Solution-17: Correct answer is “c”
Solution-18: Correct answer is “d”
Solution-19: Correct answers are “a” and “c”
Solution-20: Correct answer is “c”

Solution-21:
Correct answers are “a”, “b” and “d”.
They want you set permission **a+rwX** to runtime files. This is not security issue.

Solution-22:
Correct answer is “b”
Pod DNS records are with Pod IP addresses, not POD names
There are headless service objects not having IP addresses.
CLUSTER.LOCAL can be changed with **cluster_domain_suffix** parameter

Solution-23: Correct answer is “d”
Solution-24: Correct answers are “a” and “b”
Solution-25: Correct answer is “d”

Solution-26:
Correct answers are “a” , “b” and “e”
Dd is just for sequential disk io tests.
You can bypass file system cache with **oflags=direct**
You can measure both throughput and latency by changing **bs** and **count** parameters.

Solution-27: All are true.
Solution-28: Correct answer is “b”
Solution-29: Correct answers are “a” and “b”
Solution-30: Correct answers are “a” , “b” and “d”
Solution-31: Blockchains are immutable, so correct answers are “c” and “d”
Solution-32:
All are true.
Pre-empting zombie processes is “**preap**” command. -F can be used for forcing.
Taking snapshot differences is “**zfs diff**” command.
OS upgrades take automatic snapshots with “**beadm**” mechanism.
DLMP aggregation has no need for any network config at any network switch.

Solution-33: Only last command works, all other fails.
Solution-34: watch command is unrelated, all other commands will help.

Solution-35: LACP is Layer-2, all other statements are true.

Solution-36:

Correct answers are "a", "b" and "d"

PTR checking can be disabled with "UseDNS no" at sshd_config

DNS queries can be sent over SOCKS if you enable socks_remote_dns feature.

Solution-37: All are true.

Solution-38:

Correct answers are "b" and "c"

First three commands are port forwarding. (local/reverse/dynamic)

Last command is just receiving X11 GUI, not related with PersistentConnection

Solution-39: compression ratios : xz > bzip2 > gzip > lz4

Solution-40: avro is row-based, others are columnar based

Solution-41: There is nothing like SROFF, all others are true.

Solution-42: Correct answers are "a", "c" and "d". RAID-2 is bit striping.

Solution-43:

Correct answer is "d"

There is a separate attribute called "prio" but there is no such "path_selector" value like "priority-order"

Solution-44:

Correct answers are "a", "b" and "c"

ANO = Active-Non-Optimized

AO = Active-Optimized

As words prove themselves, AO serves better than ANO.

Solution-45:

Correct answers are "a", "c" and "d"

Increasing queue depth increases io performance, if new depth is still inside SAN total queue limit. SAN is a shared resource, so this setting must be agreed with SAN admin.

Solution-46:

Correct answer is "c"

If WSL (Windows Support for Linux) is installed, Ubuntu BASH will be available on windows 10.

Solution-47:

Correct answer is "a"

IBM AIX has a component called ODM (Object Data Manager)

It is a database like windows registry.

Solution-48:

Correct answers are "a" and "c"

LACP can be achieved when 2 ports are on different network switches.

We also want them to be on separate switches for redundancy.

Network admins must configure virtual port channel (vPC) to succeed LACP.

LACP ports can be trunk ports, there is no problem with that.

The only limitation is they can't be different VLAN members.

Solution-49: correct answer is "d". Correct Linux command is "sudo", not "su".

Solution-50:

Correct answer is "b"

Zero-Knowledge-Proof (ZKP) is a blockchain algorithm, it is unrelated.

Bulent Yucesoy was born in Ankara at 16.04.1982.

He went to elementary school and middle school at Izmir.
(1988-1996)

He later on was accepted to Izmir Science High School. (1997-2000)

He won university and entered ITU Computer Engineering Department.
(ITU = Istanbul Technical University)

He loved computer engineering and continued at same university for his master degree (2004-2007) after he finished bachelor.
(2000-2004)

While making master education, he also worked at university IT Office (www.bidb.itu.edu.tr).

After his military service, he worked for 2 years at Kocnet Telecom (Vodafone acquired it) company (2008-2010).

Afterwards he joined Garanti Technology and he is working there since 2010. (www.garantiteknoloji.com.tr)

He likes details, thinks that devil hides inside details.

He loves his wife Ipek, his son Cagan and lastly he loves learning. (that's why he thinks information is delicious.)

This book is for people who also loves learning.

Hope you also like the book.

You can send comments to bulent.yucesoy@gmail.com

Let's summarize Bulent's philosophy with a wonderful Ataturk's saying. It is valid for all the world, all the people;

"If you love your country, do your best in your job"

