300-535

IT - Libraries

Vendor: Cisco

Exam Code: 300-535

Exam Name: Automating and Programming Cisco Service Provider Solutions (SPAUTO)

This a collection of practice questions compiled by our moderators from what was shared by our users, perfect for practicing and studying.
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QUESTION 1
What tool is used to perform a "what if" failure analysis in a service provider network that is running Segment Routing?

A. Cisco WAN Automation Engine
B. Cisco Evolved Programmable Network Manager
C. Cisco Network Services Orchestrator
D. Cisco Segment Routing Path Computation Element

Correct Answer: A

QUESTION 2
Which two Python libraries are used to write a script to retrieve network device information using RESTCONF? (Choose two.)

A. PySNMP
B. requests
C. ncclient
D. YANG
E. json

Correct Answer: BE

QUESTION 3
Which command configures the remote peer when the Cisco IOS XR Traffic Controller is used?

A. **peer-sync ipv4 192.168.0.3**
B. **state ipv4 192.168.0.3**
C. **peer ipv4 192.168.0.3**
D. **state-sync ipv4 192.168.0.3**

Correct Answer: D

QUESTION 4
An automation engineer is trying to configure a destination group to use dial-out telemetry with gRPC on a Cisco IOS XR platform. The template created is failing to apply. Which parameters must be configured?

A. source IP address, source port, encoding, and sampling interval
B. source IP address, source port, encoding, and protocol
C. destination IP address, destination port, encoding, and sensor path
D. destination IP address, destination port, encoding, and protocol

Correct Answer: D

QUESTION 5
Which two use cases are valid for Cisco WAN Automation Engine? (Choose two.)

A. deployment of SR policies
B. integration with Cisco XTC
C. what-if analysis
D. device manager
E. network controller

Correct Answer: AB

QUESTION 6

```
- name: configure global bgp as 65000
  iosxr_bgp:
    bgp_as: 65000
    router_id: 1.1.1.1
    neighbors:
    - neighbor: 182.168.10.1
      remote_as: 500
      description: PEER_1
    - neighbor: 192.168.20.1
      remote_as: 500
      update_source: GigabitEthernet 0/0/0/0
    address_family:
    - name: ipv4
      cast: unicast
      networks:
        - network: 192.168.2.0/23
        - network: 10.0.0.0/8
      redistribute:
        - protocol: ospf
          id: 400
          metric: 110
```

Refer to the exhibit. What is the result of the Ansible task?

A. It configures a Cisco IOS XR router with BGP AS65000 with two neighbors and redistributes OSPF into BGP.
B. It validates the BGP configuration on a Cisco IOS XR router, but it is a read-only module and cannot modify the configuration on the router.
C. It validates the BGP configuration on a Cisco IOS XE router, but it is a check mode-only network module and cannot modify the configuration on the router.
D. It configures a Cisco IOS router with BGP on AS500 and redistributes OSPF into BGP.

Correct Answer: A

QUESTION 7
What is a key feature of YANG?

A. use identification
B. error prediction
C. JAVA compatibility
D. reusable types and groupings

Correct Answer: D

QUESTION 8
What are two characteristics of the NFV architecture approach? (Choose two.)

A. It decouples the network functions from proprietary hardware appliances.
B. It provides 70% more efficiency of network infrastructure.
C. It is specially designed for Internet providers.
D. It is specially designed for telecommunications service providers.
E. It typically includes a hypervisor.

Correct Answer: AE

QUESTION 9
A Cisco NSO service has just been deployed. Which Cisco NSO CLI command is used to inspect the resulting device configuration changes before the changes are pushed to the network?

A. **show service impact**
B. **commit dry-run outformat native**
C. **pseudo-commit**
D. **show dry-run output**

Correct Answer: B

QUESTION 10
An engineer is deploying a Python script to manage network devices through SSH. Which library based on Paramiko is used?

A. sshmiko
B. paramiko.agent
C. libssh2
D. netmiko

Correct Answer: D

QUESTION 11

```
from ydk.services import CRUDService
from ydk.providers import NetconfServiceProvider
from ydk.models.cisco_ios_xr import Cisco_IOS_XR_shellutil_oper \
    as xr_shellutil_oper
from datetime import timedelta

if __name__ == "__main__":
    """Main execution path"""
    provider = NetconfServiceProvider(address="10.0.0.1",
                            port=830
                            username = "admin",
                            password = "admin",
                            protocol = "ssh")
    crud = CRUDService()
    system_time = xr_shellutil_oper.SystemTime()
    system_time = crud.read(provider, system_time)
    print("System uptime is" +
        str(timedelta(seconds=system_time.uptime.uptime)))
    exit()
```

Refer to the exhibit. Regarding the Python script using YDK, what is the result for a device that is running Cisco IOS XR Software?

A. retrieves the system time
B. configures the system time
C. prints the uptime of the CRUDService
D. prints the system uptime

Correct Answer: D

QUESTION 12
What is a benefit of Ansible for automating IOS XE or IOS XR platforms?

A. Playbooks can be written in XML format.

B. It has agent support
C. It supports asynchronous orchestration.
D. It offers native orchestration support for Cisco platforms.

Correct Answer: D

QUESTION 13
An engineer must change from using NETCONF for streaming telemetry to telemetry data using gRPC framework because NETCONF uses XML for message and payload encoding. Which two messages and payload encodings does gNMI use? (Choose two.)

A. gNMI notifications with XML
B. protobuf notifications with XML
C. protobuf payload
D. JSON payload
E. gNMI notifications with JSON

Correct Answer: CE

QUESTION 14
Which two commands generate a template using Cisco NSO to build a service package? (Choose two.)

A. **show running-config devices device ce-ios config ios:interface Loopback 0 | display template.xml**
B. **show running-config devices device ce-ios config ios:interface Loopback 0 | display xml | save template.xml**
C. **request running-config devices device ce-ios config ios:interface Loopback 0 | display xml**
D. **show running-config devices device ce-ios config ios:interface Loopback 0**
E. **show running-config devices device ce-ios config ios:interface Loopback 0 | display xml**

Correct Answer: AC

QUESTION 15
When using Cisco YDK, which syntax configures the BGP ASN using OpenConfig BGP?

A. **bgp.config.as_ = 65000**
B. **bgp.global_.config.as = 65000**
C. **bgp.global.config.as_ = 65000**
D. **bgp.global_.config.as_ = 65000**

Correct Answer: D

QUESTION 16

```
RP/0/RP0/CPU0:iosxrv-1#show telemetry model-driven subscription
Fri Aug 23 20:39:44.122 UTC
Subscription:          Interface          State: NA
--------------------
 Sensor groups:
 Id                    Interval(ms)       State
 Interface-Counters    30000              Resolved

 Destination Groups:
 Id              Encoding            Transport  State  Port   Vrf    IP
 DEST1           self-describing-gpb  grpc       NA     5432   Mgmt-intf172.16.1.12
 TLS :           172.16.1.12
```

Refer to the exhibit. What is the cause of the status of the interface subscription?

A. The router cannot establish a gRPC connection with the collector.
B. The sensor-group "Interface-Counters" does not contain a valid YANG path.
C. The router is waiting for a collector to dial in.
D. This is the expected state of an active subscription.

Correct Answer: B

QUESTION 17

```
"request": {
    "url": "http://{{server}}:{{port}}/restconf/data/l3vpn:vpn/l3vpn=test",
    "method": "POST",
<snip>
```

Refer to the exhibit. An automation engineer has created a RESTCONF POST to configure network devices. Which two tasks are accomplished when the code is executed? (Choose two.)

A. If the specified configuration is already in the running configuration, the command is replaced by this request.
B. If the specified configuration is already in the running configuration, the command is not replaced by this request.
C. If the specified configuration is already executed in the running configuration, the command is merged with this request.
D. If the specified configuration is already in the running configuration, the command updates this request.
E. If the specified configuration is not on the device, the POST request creates it.

Correct Answer: DE

QUESTION 18

```
def configure_ip_address(interface, ip, length):
    url = BASE_URL + "/data/ietf-interfaces:intefaces/interface={i}".format(
      i = interface
    )
    data = OrderedDict(
      [
        (
          "ietf-interfaces:interface",
          OrderedDirect(
            [
              ("name", interface),
              ("type", "iana-if-type:ethernetCsmacd"),
              (
                "ietf-ip:ipv6",
                OrderedDict(
                  [
                    (
                      "address",
                      [OrderedDict([("ip", ip), ("prefix-length", length)])]),
                    )
                  ]
                ),
              ),
            ]
          ),
        )
      ]
    )

    response = requests.put(
      url, auth=(USERNAME, PASSWORD), headers=HEADERS, verify=False, json=data
    )
    print(response.status_code)

configure_ip_address("GigabitEthernet2", "2001:db8:636c:6179:2063:7572:7469:7300", "64")
```

Refer to the exhibit. What is the effect of the script on the device?

A. All interfaces except GigabitEthernet2 are reset to their default configurations.
B. It replaces the entire configuration for GigabitEthernet2 on the device using RESTCONF.
C. It merges the new configuration with the existing configuration on the device using RESTCONF.
D. It compares the configuration to the device. If it matches, the device sends back an HTTP 204 status code.

Correct Answer: C

QUESTION 19
Which data format should be used to serialize structured data in the most compact way?

A. protobufs
B. YAML
C. JSON
D. XML

Correct Answer: B

QUESTION 20

```
<operation> /<api-entry>/<path>?<query>#<fragment>
```

Refer to the exhibit. Which two URI entries are optional and functional in this RESTCONF URI structure? (Choose two.)

A. fragment
B. query
C. operation
D. api-entry
E. path

Correct Answer: BE

QUESTION 21
The Netmiko BaseConnection class contains a method called "send_config_set()". Which two actions does this method perform on the device? (Choose two.)

A. It takes a filename parameter that executes commands contained in that file on the device.
B. It requires the user to explicitly send **configure terminal** and **exit** commands to the device to enter and exit configuration mode.
C. It automatically enters and exits configuration mode on the device.
D. It takes a Python iterable, such as a list of commands, and executes them in order on the device.
E. It saves the running configuration to the startup configuration after executing the configuration commands on the device.

Correct Answer: CD

QUESTION 22

```
a = 11
b = 22
c = 33
d = 44

def swapl(a, b) :
        if a == b:
            return 2 * a, b
     else:
            a, b = b, a
            return a, b

def swap2(c, d) :
        if c < d:
                print(d, 2 * c)
     else:
            print(44, 22)
```

Refer to the exhibit. Which command prints out (44, 22) when this code is run on Python 3?

A. **print(swap1(d, b))**
B. **print(swap2(a, b))**
C. **print(swap1(b, d))**
D. **print(swap2(22, 44))**

Correct Answer: C

QUESTION 23

```
#!/user/bin/env python

import json
import requests

NE = {
   "device":{
     "name": "ios-device",
     "address": "192.168.0.1",
     "port":22,
     "state":{
        "admin-state": "unlocked"

     },
     "authgroup": "default",
     "device-type":{
       "cli":{
          "ned-id": "tailf-ned-cisco-ios-id:cisco-ios"
       }
     }
   }
}
def main():
 baseUri = "http://localhost:8080/restconf/data"
 auth = ('john', 'suoer123')
 headers = {'Content-Type': 'application/yang-data+json'}
 response = requests.put(baseUri + '/devices/device=ios-device', auth=auth, headers=headers,
           data=json.dumps(NE))
 print(response)

 baseUriOperation = "http://localhost:8080/restconf/operations"

 response = requests.post(baseUriOperation + "/devices/device=ios3/sync-from. auth=auth, headers=headers)
 print(response)

if ___name___ == "___main___":|
 main()
```

Refer to the exhibit. A Python script is created to add a new device on Cisco NSO using RESTCONF API. The device is added successfully, but a 405 Method Not Allowed RESTCONF error code has received as the line to fetch SSH keys runs. Which code is missing to complete the script?

A. **response = requests.put(baseUriOperation + "/devices/device=ios-device/ssh/fetch-host-keys", auth=auth, headers=headers)**
B. **response = requests.post(baseUriOperation + "/devices/device=ios-device/ssh/fetch-host-keys", auth=auth, headers=headers)**
C. **response = requests.post(baseUriOperation + "/devices/device=ios-device/ssh/request-host-keys", auth=auth, headers=headers)**
D. **response = requests.put(baseUriOperation + "/devices/device=ios-device/ssh/request-host-keys", auth=auth, headers=headers)**

Correct Answer: C

QUESTION 24
An engineer needs to configure network devices in an automated way. Which two ways are used to create structured data using YANG to provide REST-like APIs to enable programmability access? (Choose two.)

A. YAML
B. JSON

C. GPB

D. JSON-RPC

E. XML

Correct Answer: BE

QUESTION 25
Which two data formats are human readable? (Choose two.)

A. YAML

B. Apache Arrow

C. gRPC

D. binary

E. JSON

Correct Answer: AE

QUESTION 26
A user is debugging a problem with model-driven dial-in/out streams with gRPC for a Cisco IOS XR implementation. There is no streaming data and the path is not resolved when the **show telemetry model-driven subscription** command is issued on the router. What is the cause of the problem?

A. The emsd process is not running.

B. There are polling interval problems.

C. SNMP is not enabled.

D. There is no support for IOS XR 64-bit.

Correct Answer: A

QUESTION 27

```
module abc_service {
    namespace "http://com/abc/service";
    prefix abc_service;

    import  ietf-inet-types { prefix inet; }
    import  tailf-ncs { prefix ncs; }
    imports tailf-common { prefix tailf; }
    import  tailf-ned-cisco-ios { prefix ios; }

    augment "/ncs:services" {

        list abc_service {
            key "name";
            ncs:servicepoint "abc_service";

            leaf name {
                mandatory true;
                type string;
            }
            list link {
                key "router_name";

              leaf router_name {
                 mandatory true;
                 type leafref {
                  path "/ncs:devices/ncs:device/ncs:name";
               }
             }
           }
         }
       }
     }
```

Refer to the exhibit. Based on the YANG presented, what is the correct xpath to retrieve the router named "ios-device" under the "CustomerA" service name?

A. /ncs:abc_service/CustomerA/ios-device

B. /abc_service/CustomerA/"ios-device"

C. /ncs:service/abc_service/"CustomerA"/ios-device

D. /ncs:services/abc_service/CustomerA/ios-device

Correct Answer: D

QUESTION 28
Which two operations must be used to allow a network engineer to use NETCONF to configure and manage networking devices? (Choose two.)

A. **<get-config>**

B. **<open-session>**

C. **<close-session>**

D. **<remove-config>**

E. **<put>**

Correct Answer: AC

QUESTION 29

```python
#!/usr/bin/env python

from ydk.models.openconfig.openconfig_interfaces import Interfaces
from ydk.errors import YError

def read_interfaces(crud_service, provider):

    intf_f = Interfaces()

    try:
        interfaces = crud_service.read(provider, intf_f)
        for interface in interfaces.interface:
            print(interface.name)
    except YError:
         print('An error occurred.')
```

Refer to the exhibit. When YDK is used to interact with Cisco routers, what is the purpose of passing **intf_f** into the **crud_service.read()** method?

A. The **Interfaces()** class acts as a NETCONF filter, which limits the data returned to that of the openconfig:interfaces YANG model.
B. It provides the data types of the openconfig:interfaces model to the router for dynamic configuration of the interfaces.
C. It locks the interfaces from modification by other active NETCONF sessions.
D. It passes default values into the **crud_service**, which reconfigures all interfaces to their default configurations.

Correct Answer: D

QUESTION 30
Which NETCONF datastore is locked while the network device configuration is edited?

A. running
B. common
C. startup
D. working

Correct Answer: A

QUESTION 31

curl –u john:password http://192.168.10.20

Refer to the exhibit. Which HTTP authentication mechanism is being used?

A. simple
B. basic
C. OAuth
D. token

Correct Answer: B

QUESTION 32
An engineer just completed the installation of Cisco NSO and all of its components. During testing, some of the services are not working properly. To resolve the issue, the engineer started undeploying service instances. What can this cause?

A. It removes the service configuration from the network device only.
B. It removes the service configuration from the network and NSO.
C. It removes the service configuration from NSO only.
D. It runs the service code again when the device is out of sync.

Correct Answer: B

QUESTION 33
Which statement describes an asynchronous API communication?

A. Asynchronous communication waits for a response.
B. Synchronous communication is with a central orchestrator.
C. It is not necessary to wait for availability of a resource.
D. An application can freeze if there is no response from a request.

Correct Answer: C

QUESTION 34

```
module: openconfig-interfaces
  +- -rw interfaces
     +- -rw interface* [name]
        +- -rw name               -> . ./config/name
        +- -rw config
        |     +- -rw type              identityref
        |     +- -rw mtu?              uint16
        |     +- -rw name?             string
        |     +- -rw description?      string
        |     +- -rw enabled?          boolean
        +- -ro state
        |     +- -ro type              identityref
        |     +- -ro mtu?              uint16
        |     +- -ro name?             string
        |     +- -ro description?      string
        |     +- -ro enabled?          boolean
        |     +- -ro ifindex?          uint32
        |     +- -ro admin-status      enumeration
        |     +- -ro oper-status       enumeration
        |     +- -ro last change?      yang:timeticks
        |     +- -ro counters
        |         +- -ro in-octets?              yang:counter64
        |         +- -ro in-unicast-pkts?        yang:counter64
        |         +- -ro in-broadcast-pkts?      yang:counter64
```

Refer to the exhibit. Which two configuration leaves in this YANG model are optional? (Choose two.)

A. **last-change**
B. **oper-status**
C. **type**
D. **enabled**
E. **mtu**

Correct Answer: AE

QUESTION 35
Which is a format used for the YANG JSON content-type header?

A. application/vnd/yang.data+json
B. application/vnd.yang.data+json
C. application/yang.data.json
D. application/vnd.yang.data json

Correct Answer: B

QUESTION 36
What are two advantages of using Python virtual environments? (Choose two.)

A. They allow for multiple Python projects to use different versions of the same dependency without conflict.
B. They allow multiple Python applications to share virtual memory between subprocesses.
C. They allow for isolated environments where each can use a different version of Python.
D. They allow for all Python projects to utilize the same set of shared dependencies.
E. They allow for multiple virtual machines to share a single Python environment.

Correct Answer: AC