



# Indian Institute of Technology Jodhpur

(Assistant Manager (ICT), Post Code 3509)

March 12, 2022

MW

॥ त्वं ज्ञानमयो विद्वानमयोऽसि ॥  
Time: 60 min

Trade Test

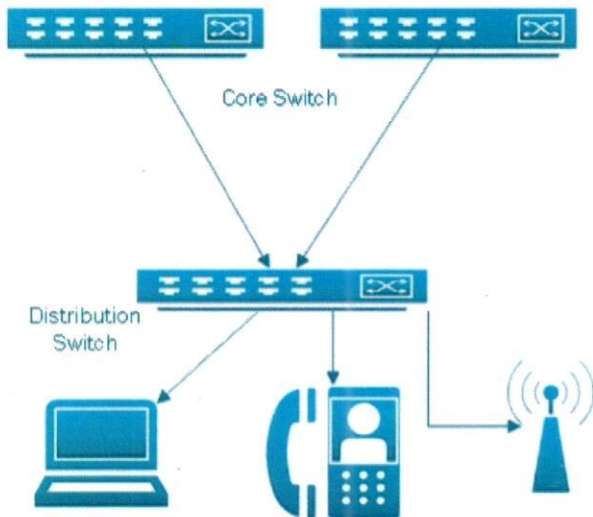
Maximum Marks: 40

User Manual of the Switch is provided at the desktop.

Name: \_\_\_\_\_

Application No.: \_\_\_\_\_

1. We'll assume you're configuring a distribution switch for a block of the IITJ campus network in the following scenario.



Three VLANs are configured with the following information in the distribution switch, and these networks are advertised using OSPF, which is utilised to connect all campus distribution blocks with core networks for end-to-end IP connectivity.

- VLAN 1:- DATA VLAN, VLAN Id 101; IP series for the VLAN 192.168.1.0/24; Member Switch port 5-10.
- VLAN 2:- Wi VLAN, VLAN Id 201; IP series for the VLAN 192.168.2.0/23 ; Member Switch port 11-15
- VLAN 3:- Voice VLAN, VLAN Id 301; IP series for the VLAN 192.168.3.0/24; Member Switch port 16-20

In the part of the task you have to carry following activities:

- (a) Configure a Login Banner in the switch with following message:

[4]

```
#####  
UNAUTHORISED ACCESS IS PROHIBITED  
[Your Name] with [Application Number]  
#####
```

Note: Name and application number need to be filled accordingly.

- (b) Change the Switch host name to "YourFirstName\_DS". [2]
- (c) Create a local user in the switch with your first name and password will be your application number. With this user you can access the switch through ssh and https only. If wish you can assign privileged level 15 with the user and password should be in encrypted mode. [5]
- (d) Create three numbers of layer 3 VLANs as per the above data. [4]
- (e) Advertise VLAN 1 and VLAN 2 network in an OSPF instance with area 10. [5]
- (f) VLAN 1 (Data VLAN) is configured from port number 5 to port number 10 of the switch. Create a security policy that restricts the number of secure MAC addresses in these ports to only one. [5]
- (g) Create security policies to restrict inter VLAN communication between VLAN 1 (i.e Data VLAN) and VLAN 2 (WiFi VLAN). [5]
- (h) Assume that the distribution switch's ports 23 and 24 are connected to two sets of downstream access switches, and that VLAN 1 and VLAN 3 are exclusively passed through these ports. Made the necessary configuration for this. [5]
- (i) Configure necessary DHCP snooping on the switch to exclude rouge DHCP servers. [5]