



Aarav Tech Solutions

5G + O-RAN

PREMIUM

SYLLABUS



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Aarav Tech Solutions

SUMMARY

TECHNOLOGY

5G
ORAN
LTE



INTERVIEW PREPARATION

Session on Lab setup description, Testing Types, Test cases.
Technical question/answer s discussion.

SUPPORT

Resume preparation.
Naukari profile Optimization.
LinkedIn Profile Optimization.
Dedicated Pre Interview discussion.

WHY CHOOSE US

- ✓ Our team consists of professionals who have proven reliable, both in terms of education
- ✓ All payment transactions to accounts in the name of the Company
- ✓ We are a trusted company with excellent and fast service

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BEST INDUSTRY SERVICE



TRAINING SESSIONS CENTER

Live Classes Recording will be provided for each session.
Interactive Sessions.



TOOLS SESSION

QXDM/QCAT
. Wireshark.



LAB SESSION

5G SDN Lab
LTE SDN Lab



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Training Sessions

- QXDM/QCAT.
- Wireshark.

Tools Sessions

- 5G SDN Lab
- LTE SDN Lab

Labs Sessions

- Session on Lab setup description, Testing Types
- Test cases.
- Technical question/answers discussion.

Interview preparation

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- LinkedIn Profile Optimization. Dedicated Pre Interview discussion.

Support

- 5G
- ORAN
- LTE

Training Sessions



Content

5G-NR

- What is 5G? Introduction.
- The 5G Use Cases.
- 3gpp standard of 5G-NR.
- 5G Architecture (NSA & SA).
- 5G Deployment Options.
- 5G Service Based Architecture.
- 5G Core and each node's functionalities.
- 5G-Network Slicing.
- 5G Bands (FR1 & FR2).
- 5G Different spectrum for different use cases
- Supplementary Uplink (SUL) and Supplementary Downlink (SDL)
- 5G-NR Numerology, Subcarrier Spacing.
- 5G-NR Frame structure, slots length.
- SRB (Signaling Radio Bearer).
- 5G NR Protocols. User Plane Protocol Stack.
- Control Plane Protocol Stack
- SDAP (Service Data Adaptation Protocol).
- PDCP (Packet Data Convergence Protocol).
- RLC (Radio Link Control) RRC (Radio Resource Control).
- 5G Channels.
- SS Blocks (Time & Frequency domain).
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5G-NR

- SS Burst, SS Burst set.
- PBCH DMRS (DeModulation Reference Signal)
- 5G NR CORESET – Control Resource Set
- 5G Resource allocation in Time Domain.
- 5G Resource allocation in frequency Domain.
- DCI in 5G.
- RNTI in 5G.
- Scheduling in 5G.
- 5G QoS.
- RRC States in 5G.
- Beamforming.
- Cell Search Procedure – Non Standalone Architecture (NSA)
- Cell Search Procedure – Standalone Architecture (SA)
- RACH in 5G-NR.
- 5G Call Flow (eNB - gNB dual connectivity) with logs.
- 5G SA Call flow with logs.

ORAN

- History of Open RAN.
- What is Open RAN ?
- Why Open RAN?
- Goal of Open RAN
- Example Scenario: OpenRAN Deployment Model
- Evolution to 5G OpenRAN
- RU(Radio Unit).
- CU (Centralized Unit).
- DU (Distributed Unit).
- RU/DU/CU Architecture .
- O-RAN Specification (Working groups (WG) Details).
- O-RAN Specification (Working groups Details).
- 7.2x Split
- Challenges in ORAN
- Lab Setup
- High Level Architecture of ORAN
- RIC
- Non RT RIC
- Near RT RIC
- Service Management and Orchestration (SMO)
- FCAPS
- CPRI & eCPRI
-

- CPRI characteristics.
- eCPRI characteristics.
- IQ Data Transfer procedure.
- PTP (Precise Time Protocol (IEEE 1588))
- SyncE (Synchronous Ethernet)
- C-plane Protocol
- U-plane Protocol
- S-plane Protocol
- Clock Model and Synchronization Topology.
- Configuration LLS-C1
- Configuration LLS-C2
- Configuration LLS-C3
- Configuration LLS-C4
- Open RAN Management Plane (M-plane) for Open RadioUnit.
- Hierarchical model.
- Hybrid model.
- M-Plane functional description
- NETCONF Call Home to O-RU Controller(s)
- SSH Connection Establishment
- NETCONF Security
- NETCONF Authentication
- DHCP
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thank you

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