

# HCIA H35-660

## TRUE OF FALSE

1. WHICH OF THE FOLLOWING IS THE PAIN POINTS RELATING TO PC GAMING EXPERIENCE? -MC

- Low Hardware investment
- **No anywhere anytime access .. Ok**
- Piracy
- High Software price .. OK

2. IN THE FOLLOWING TERMINAL MOVING SPEEDS ARE SUPPORTED FOR 5G? -MC

- **300 Km/h .. Ok**
- **500 Km/h .. Ok**
- 600 Km/h
- **400 km/h .. Ok**

3. WHICH OF THE FOLLOWING IS DISADVANTAGE OF WIRED (POWER LINE) AMI TECHNOLOGY?

- Low Capacity
- Immature Technology
- **Difficult deployment .. Ok**
- Unable to traverse transformers

4. WHICH OF THE FOLLOWING ARE MEMBERS OF THE 5G OPEN TRIAL SPECIFICATION ALLIANCE (OTSA)? -MC

- **SKT .. Ok**
- Vodafone
- **Verizon .. Ok**
- **DCM .. Ok**

5. *5G can achieve reliable and controllable 5A ubiquitous communication between humans, between humans and things, between things Other than "anytime" and "Anywhere". Which other three options are part of the 5G concept? -MC*

- **Anyone .. Ok**
- **Anyhow .. Ok**
- **Any device .. Ok**
- Anything

6. *Which of the following companies has claimed that it will no longer develop 5G terminal baseband chipsets?*

- **Intel .. Ok**
- Samsung
- Huawei
- Qualcomm

7. *With control and user plane separation (CUPS) on the core network, the user can be moved closer to users to reduce transmission delay.*

- **True .. Ok**
- False

8. WHICH OF THE FOLLOWING ARE THE KEY REQUIREMENTS OF POWER DISTRIBUTION AUTOMATION ON COMMUNICATION NETWORKS? -MC

- **Millisecond-level Ultra-low latency .. Ok**
  - **High isolation .. Ok**
  - **High reliability .. Ok**
  - Ultra-high bandwidth
- 

9. WHO IS THE APPLICANT FOR THE NETWORK SLICING? -SC

- **Tenant .. Ok**
  - Subscriber
  - Proprietor
  - User
- 

10. WHICH OF THE FOLLOWING MEDICAL APPLICATIONS DOES NOT NEED TO BE SUPPORTED BY 5G?

- **Patient Locating .. Ok**
  - Remote surgery
  - Remote robot endoscope
  - Remote B-scan
- 

11. IN THE IMT2020 VISION, WHICH OF THE FOLLOWING IS CORRECT RATIO OF 5G SERVICE DELAY TO THE 4G SERVICE DELAY?

- **1/50 ..Ok**
  - 1/10
  - 1/100
  - 1/20
- 

12. WHICH OF THE FOLLOWING TERMS REFERS TO THE BASE STATION IN THE RADIO ACCESS NETWORK IN 5G?

- NodeB
  - eNodeB
  - **gNodeB .. Ok**
  - BTS
- 

13. WHICH OF THE FOLLOWING IS THE KEY 5G CAPABILITY REQUIRED BY MONITORING APPLICATIONS SUCH AS CONNECTED INTELLIGENT INFUSION IN SMART HEALTHCARE?

- Low-power small-packet transmission
- **Wireless ultra-broadband access .. Ok**
- Anytime, anywhere wireless
- Contiguous coverage

#### SINGLE CHOICE

14. Which of the following is the main advantage of the using massive MIMO over traditional MIMO? SC

- Multiplexing gain
  - Single-channel array gain
  - **3d beamforming gain .. Ok**
  - Diversity gain
- 

15. Which of the following is the user plane function module on the core network in 5G SA networking? SC

- AMF
  - **UDM .. OK**
  - SMF
  - UPF
- 

16. In the 3GPP R15 protocol, which of the following is 5G mmWave? SC

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- Spectrum above 3GHz
  - **Spectrum above 20Ghz .. Ok**
  - Spectrum above 10Ghz
  - Spectrum above 5GHz
- 

17. Which of the following belong to 5G NSA networking? MC

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- Options 2
  - **Option 3x .. Ok**
  - **Option 3a .. Ok**
  - **Option 3 .. Ok**
- 

18. What is minimal air interface latency required in the 5G URLLC application scenario in IMT-2020 vision? -SC

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- **1 ms .. Ok**
  - 10 ms
  - 5 ms
  - 100 ms
- 

19. Internet of Vehicle (IoV), Requires coordination of network intelligence and infrastructure from vehicle-mounted information services?

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- **True .. OK**
  - False
- 

20. In 5G, what is the maximum number of RBs when the subscriber spacing is 30KHz and bandwidth is 100 MHz? – SC

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- 273
  - **106 .. Ok**
  - 200
  - 100
- 

21. 3GPP release 16 describes only the URLLC and mMTC scenarios.

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- True
  - **False .. Ok**
- 

22. The first wave of communication 5G predominately targets eMBB services.

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- **True Ok**
  - False
- 

23. Which of the Following Standards could potentially undermine global 5G unification and cause the industry chain to break? –SC

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- IEEE
- 3GPP

- **OTSA .. OK**
  - 3GPPs
- 

24. Which one of the following must be cloudified first to implement the cloud-based network structure? –SC

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- **Core network ..Ok**
  - Terminal
  - RAN
  - Bearer Network
- 

25. In which 3GPP release were the 5G standards first introduced? -SC

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- **Release 15 .. Ok**
  - Release 16
  - Release 10
  - Release 8
- 

26. During 5G Standardization, which of the following is the SA (standalone) architecture developed in? -SC

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- **Phase1.2 .. Ok**
  - Phase 2.1
  - Phase 2.2
  - Phase 1.1
- 

27. Which of the following statements is correct about uploading AR/VR teaching content to the cloud? -SC

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- AR/VR images and audios are efficiently encoded into audio and video streams in the client.
  - **The cloud computing capability is used to run, render display, and control AP Applications. .. Ok**
  - Rendering with high requirements on latency is deployed close to user that service data does not need to be transmitted to the core network.
  - The edge cloud deployment architecture is recommended to meet the low latency requirements of services.
- 

28. Which one of the following services belongs to URLLS application scenario? -SC

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- **Automated driving ..Ok**
  - Intelligent meter reading
  - Intelligent parking
  - AR/VR
- 

29. Which of the following 5G chipsets does not support 5G mode? –SC

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- Balong 5000
  - Exynos 5110
  - X55
  - **X50 .. OK**
- 

30. What diversity of connections can 5G deliver in the mMTC application scenario in IMT-2020 Vision? –SC

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- 100,000 Connections per square kilometer
  - **1 million connections per square kilometer ..OK**
  - 10 million connections per square kilometer
  - 10,000 connections per square kilometer
-

**31. Which of the following items are included in the 5G phase 3 test led by IMT-2020 (5G) promotion Group? –MC**

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- Field test of the NSA architecture.
  - Inter-vendor compatibility test
  - **Indoor test of the SA architecture ..Ok**
  - **Field test of the SA architecture ..Ok**
- 

**32. Which of the following is not advantage of a thin client in the cloud X service?**

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- Easy deployment and management
- **Efficient storage ..Ok**
- Mobile
- Low cost

33.

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## TRUE OR FALSE

1. With control and user plane separation (CUPS) on the core network, the user can be moved closer to users to reduce transmission delay.
  - a. True .. Ok
  - b. False

---
2. In the initial phase of 5G network construction, operator predominantly provide data service for customers. (T/F)
  - a. True. \_Ok
  - b. False.

---
3. Open trail specification alliance (OTSA) predominately promotes the release and application of 28 GHz spectrums. -TF
  - a. True ..Ok
  - b. False

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4. In eMBB application scenarios, 5G significantly improved user experience for mobile broadband servies? \_TF
  - a. True \_ok
  - b. False
5. 5G technology uses licensed frequency bands. Therefore mobile operators can provide identity authentication and core signaling security. ..TF
  - a. True ..Ok
  - b. False
6. 3GPP release 16 describes only the URLLC and mMTC scenarios.
  - a. True
  - b. False .. Ok
7. In the 5G era, services will shioft from 2C to emerging vertical industries, including 2B2C, @B, 2H. ..TF
  - a. True ..Ok
  - b. False
8. High frequency mmWave is predominately uses 5G wireless coverage. -TF
  - a. True
  - b. False .. Ok

9. The first wave of communication 5G predominately targets eMBB services.

- a. True Ok
- b. False

10. Standards formulated by Open trial specification alliance (OTSA) also belong to 5G specifications of 3GPP.

- a. True
- b. False Ok

11. 5G uses edge computing to offload traffic, guaranteeing low latency

- a. True Ok
- b. False

12. Using a 5G-based transmission line inspection drone can extend the inspection range to several kilometers away.

- a. True ..Ok
- b. False

13. With the network slicing technology, operators can increase revnue and reduce expenditure, opening up more service scenarios.

- a. True ..Ok
- b. False

#### SINGLE CHOICE

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15. Which of the following key technologies is used to improve data transmission reliability and reduce retransmission caused by data transmission errors, Thereby indirectly improving spectral efficiency? \_SC

- a. F-OFDMA Ok
- b. High-order modulation
- c. Channel coddng
- d. Massive MIMO

16. Which of the following Terms refers to the base station in the radio access network in 5G?

- a. NodeB

- b. eNodeB
- c. **gNodeB .. Ok**
- d. BTS

17. In 5G, what is the maximum number of RBs when the subscriber spacing is 30KHz and bandwidth is 100 MHz? – SC

- a. 273
- b. 106 .. Ok
- c. 200
- d. 100

18. In the IMT2020 vision, which of the following is correct ratio of 5G service delay to the 4G service delay?

- a. **1/50 ..Ok**
- b. 1/10
- c. 1/100
- d. 1/20

19. WHICH OF THE FOLOWING ARE THE KEY FACTORY FOR OPERATORS TO SELECT NSA OR SA NETWORKING? -MC

- a. **Inventory network devices ..Ok**
- b. **Return on Investment .. OK**
- c. **Terminals .. Ok**
- d. **Technology maturity ..Ok**

20. Which of the following frequency bands is used by the Verizon 5F home?

- a. 3.5G Hz
- b. **28 Ghz ..oK**
- c. 40 GHz
- d. 2.6 GHz

21. Which of the following is disadvantage of wired (power Line) AMI Technology?

- a. Low Capacity
- b. Immature Technology
- c. **Difficult deployment .. Ok**
- d. Unable to traverse transformers

22. Who is the applicant for the network slicing? -SC

- a. **Tenant .. Ok**
- b. Subscribe

- c. Proprieto
- d. User

23. Which of the following is the key 5G capability required by monitoring applications such as connected intelligent infusion in smart healthcare?

- a. Low-power small-packet transmission
- b. **Wireless ultra-broadband access .. Ok**
- c. Anytime, anywhere wireless
- d. Contiguous coverage

24. Which of the following is the user plane function module on the core network in 5G SA networking? SC

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- a. AMF
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28. Which of the Following Standards could potentially undermine global 5G unification and cause the industry chain to break? -SC

- a. IEEE
- b. 3GPP
- c. **OTSA .. OK**

d. 3GPPs

29. Which one of the following must be cloudified first to implement the cloud-based network structure? –

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30. In which 3GPP release were the 5G standards first introduced? -SC

- Release 15 .. Ok
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- Release 8

31. During 5G Standardization, which of the following is the SA (standalone) architecture developed in? -

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- Phase 1.2 .. Ok
- Phase 2.1
- Phase 2.2
- Phase 1.1

32. Which of the following statements is correct about uploading AR/VR teaching content to the cloud? -SC

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33. Which one of the following services belongs to URLLS application scenario? -SC

- Automated driving ..Ok
- Intelligent meter reading
- Intelligent parking
- AR/VR

34. Which of the following 5G chipsets does not support 5G mode? –SC

- Balong 5000
- Exynos 5110
- X55
- X50 .. OK

35. What diversity of connections can 5G deliver in the mMTC application scenario in IMT-2020 Vision? –SC

- 100,000 Connections per square kilometer
- **1 million connections per square kilometer ..OK**
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36. Which of the following items are included in the 5G phase 3 test led by IMT-2020 (5G) promotion Group? –MC

- a. Field test of the NSA architecture.
- b. Inter-vendor compatibility test
- c. **Indoor test of the SA architecture ..Ok**
- d. **Field test of the SA architecture ..Ok**

37. Which of the following is not advantage of a thin client in the cloud X service?

- a. Easy deployment and management
- b. **Efficient storage ..Ok**
- c. Mobile
- d. Low cost

38. Which of the following is the ideal rate of reliability for cooperative automated driving?

- a. 0.999%
- b. 0.999999%
- c. 0.9999%
- d. **0.99999% .. Ok**

39. Which of the following smart healthcare applications projects is dependent on 5G networks? -SC

- a. **Remote surgery through a robot .. OK**
- b. Medical care monitoring
- c. Patient Locating
- d. Infusion monitoring

40. In an industrial internet sensors are used to monitor the status. Which one of the following requirement in this case?

- a. Low delay
- b. Large bandwidth
- c. **High reliability ..Ok**
- d. Massive connections

41. During 5G standardization, which of the following is the SA (standalone) architecture developed in?

- a. Phase 2.2
- b. Phase 1.1
- c. Phase 2.1
- d. Phase 1.2 ..Ok**

42. Which of the following services is the most suitable for terminals to implement DRX? \_SC

- a. VR gaming
- b. Automated driving
- c. Video on-live
- d. Intelligent meter reading ..Ok**

43. Which of the following is the low-altitude range where drones can work? \_SC

- a. 2000 m
- b. 100 m
- c. 1000 m .. Maybe**
- d. 60 m

44. Which of the following terms refers to the base station in the radio network access in 5G? \_SC

- a. NodeB
- b. eNodeB
- c. BTS
- d. gNodeB ..Ok**

45. Which of the following coding schemes is predominately used for traffic channel in 5G? \_SC

- a. LDPC ..Ok**
- b. Convolutional code
- c. Polar code
- d. Turbo coding

46. Which of the following TV definitions is equivalent to the definition of the pre-VR full view 4K 2D content? -SC

- a. 240p ..Ok**
- b. 1080p
- c. 480p
- d. 720p

47. Which following service scenario of the smart grid does a separate 5G E@E need to be used? -SC

- a. Power distribution network protection and control ..Ok**
- b. Mobile operations

- c. Intelligent meter reading
- d. Voice-base dispatch service (trunking group)

**48. Which one of the following technologies enables 5G to better support drone services? -SC**

- a. AAU vertical coverage
- b. More connected users
- c. Lower service delay ..Ok**
- d. Large cell bandwidth

**49. Which one of the following serves as the main application service for 5G deployment phase in the Europe and the United states? -SC**

- a. Internet of Vehicles (IoV)
- b. Cloud VR
- c. Smart manufacturing
- d. FWA (Home broadband access) ..Ok**

**50. Which of the following TV definition is equivalent to the definition of the 8K 2D content in an entry-level full-view scenario? -SC**

- a. 240p
- b. 480p ..Ok**
- c. 720p
- d. 1080p

**51. Which of the following has the highest requirement for the network bandwidth in B-Scan?**

- a. Ultrasonic imaging ..Ok**
- b. Operation control
- c. Real-time call
- d. Communication between doctors and patients

**52. Which of the following is the highest modulation order as defined by 3GPP release 15? \_SC**

- a. 16QAM
- b. 1024QAM
- c. 64QAM ..Ok**
- d. 256QAM

**53. Which of the following security feature of the 5G can identify illegal attacks and reduce the impact of attacks? -SC**

- a. Availability
- b. Integrity
- c. Confidentiality

d. **Traceability ..OK**

54. Which of the following is a solution for 5G to switch uplink transmission to the sub-3 GHz low frequency band. Effectively compensating for insufficient uplink coverage of the C-Band? \_SC

a. **UL and DL decoupling ..Ok**

b. Carrier aggregation

c. Duplex technology

d. Multiple access technique

55. Which of the following is the main requirement for 5G network performance for services such as smart building and smart lamp? -SC

a. Latency

b. Rate

c. **Connections ..Ok**

d. Mobility

56. Which of the following is the most advanced aspect of the development phase of IoV? \_SC

a. Fully Automated parking

b. Lane change assistance

c. **Automated driving urban areas \_Ok**

d. Automatic driving in lanes

57. Which of the following is the minimum value of ultra-high voltage (UHV) of a power system? -SC

a. 330 KV

b. 220 KV

c. **800 KV ... Ok**

d. 35 KV

58. Which one of the following 5G service application does the V2X apply to? \_SC

a. **IoV \_Ok**

b. smart grid

c. Drone

d. IoT

59. Which of the following 5G security features, which one can be used to record operations for security audit? \_SC

a. Availability

b. integrity

c. **traceability ....ok**

d. confidentiality

60. Which of the following service scenarios is the most suitable for terminal to implement DRX? \_SC

- a. **Intelligent meter reading ..ok**
- b. video on-live
- c. VR gaming
- d. Automated driving

61. Which one of the following is the standard configuration for antennas on 5G mobile phones for commercial use ?\_SC

- a. 2T2R
- b. 4T4R
- c. **2T4R \_Ok**
- d. 4T4R

62. Which of the following statements is correct about the 5G service-oriented architecture? \_SC

- a. Service-based interface
- b. **Network service are not open to external system \_OK**
- c. Network functions are decoupled and modularized
- d. Network function are combined and deployed as required

63. which of the following chips is the world's first commercial single-chip multi-mode (2g/3g/4g/5g)5g modem? \_SC

- a. **Balog 5000 ..Ok**
- b. 5X50/X55
- c. CXMM-8160
- d. D.Exynos 5510

64. 3G significantly promotes the development of smart healthcare .which of the following application scenarios is the most demanding? \_SC

- a. **A.remote consultation. .... ok**
- b. patient locating
- c. **remote surgery \_Ok**
- d. wireless monitoring

65. Which of the following companies the claimed that it will no longer develop 5G terminal baseband chipsets?\_SC

- a. QUALCOMM
- b. Huawei
- c. **intel ..... ok**
- d. Samsung

66. Which of the following statements is correct about data splitting with Option 3x? \_SC

- a. Bearer-bases data splitting

b. **Data splitting on the gNodeB side \_OK**

c. Direct data splitting by the EPC

d. Data splitting on the eNodeB side

**67. Which of the following medical applications does not need to be supported by 5G? \_SC**

a. Remote B-scan

b. Remote robot endoscope

c. Remote surgery

d. **Patient locating \_Ok**

**68. Which of the following is the recommended position for deploying the user data processing module for automated driving? \_SC**

a. **Edge cloud \_Ok**

b. Regional Cloud

c. Core cloud

d. Access network

**69. Which one the following 5G terminals converts 5G signals into Wi-Fi signals for WTTx services? \_SC**

a. Router

b. **CPE \_Ok**

c. Smartphone

d. Mifi.

**70. Which of the following companies has claimed that it will no longer develop 5G terminal baseband chipsets?**

a. **Intel .. Ok**

b. Samsung

c. Huawei

d. Qualcomm

**71. Which of the following medical applications does not need to be supported by 5G?**

a. **Patient Locating .. Ok**

b. Remote surgery

c. Remote robot endoscope

d. Remote B-scan

MULTIPLE CHOICE

**72. Which of the following are major challenges in the 5G era? -MC**

a. **Explosive increase of connected devices ..Ok**

b. **Ultra-Low latency for communication between vehicles ..Ok**

- c. **Fase handover on mobile networks**
- d. **Surging increase of MBB data traffic ..Ok**

73. Which of the following is the pain points relating to PC gaming Experience? -MC

- a. Low Hardware investment
- b. **No anywhere anytime access .. Ok**
- c. Piracy
- d. High Software price .. OK

74. 5G can achieve reliable and controllable 5A ubiquitous communication between humans, between humans and things, between things Other than “anytime” and “Anywhere”. Which other three options are part of the 5G concept? -MC

- a. **Anyone .. Ok**
- b. **Anyhow .. Ok**
- c. **Any device .. Ok**
- d. Anything

75. Which of the following are members of the 5G Open Trial Specification Alliance (OTSA)? -MC

- a. **SKT .. Ok**
- b. Vodafone
- c. **Verizon .. Ok**
- d. **DCM .. Ok**

76. Which of the following are the key requirements of power distribution automation on communication networks? -MC

- a. **Millisecond-level Ultra-low latency .. Ok**
- b. **High isolation .. Ok**
- c. **High reliability .. Ok**
- d. Ultra-high bandwidth

77. Which of the following belong to 5G NSA networking? MC

- a. Options 2
- b. **Option 3x .. Ok**
- c. **Option 3a .. Ok**
- d. **Option 3 .. Ok**

78. Which of the following benefits does 5G bring to automated driving? –MC

- a. **Removing single-vehicle intelligence and achieving intellegtn coordination. ..Ok**
- b. **Interactive perception and experience improvement. ..OK**

- c. **Low latency. Reducing read uncertainty ..Ok**
- d. **Making up for the constraints on sensors due to distance and environment. ..Ok**

79. In the following terminal moving speeds are supported for 5G? -MC

- a. **300 Km/h .. Ok**
- b. **500 Km/h .. Ok**
- c. 600 Km/h
- d. **400 km/h .. Ok**

80. Which of the following massive MIMO statements are correct? -MC

- a. **Massive MIMO uses Large-scale antenna arrays ..Ok**
- b. **Massive MIMO improves capacity of a single call .. Ok**
- c. Only horizontal beamforming is available
- d. **Legacy wide beams are replaced with narrow beams by adjusting their beam weight. ..Ok**

81. Which of the following are disadvantages of using drones on 4G communication networks? -MC

- a. **Delivering flight control command is slow. ..Ok**
- b. **The signal strength is strong when lower the 120 from the ground but the connection is easily lost when the height exceeds 120m. ..Ok**
- c. The uplink data rate is low.
- d. **The drone height is not within the main lobe of the ground station antenna. The air signals are in disarray. There is no primary coverage cell. Frequent handovers cause significant downlink interference for terminals. ..Ok**

82. Which of the following security technologies are used on a 5G network? -MC

- a. **End-to-end security protection between PLMNs ..Ok**
- b. **256-bit encryption algorithm ..OK**
- c. **Integrity protection on the user plane over the air interface. ..Ok**
- d. **Encrypted IMSI transmission ..Ok**

83. Which of the following are 5G technologies defined in 3GPP release 15? -MC

- a. **Massive MIMO \_OK**
- b. **Flexible subframe structure \_OK**
- c. **New multi-access technology \_oK**
- d. **New waveform \_Ok**

84. Which of the following URLLC statements are correct? -MC

- a. **In mid-2018, 3GPP release completed the URLLC basic version, By the end of 2019, the completed version of 3GPP release 16 was provided. \_Ok**
- b. **The typical application scenarios of URLLC include automated driving, drones, and telemedicine. \_Ok**
- c. **URLLC services require a delay of less than 10 ms \_Ok**
- d. **URLLC mainly considers the requirements on network delay. \_Ok**

85. Which of the following technical solutions reduce the 5G delay? \_MC

- a. Shortening the resource allocation interval \_Ok
- b. Dynamic uplink and down link resources allocation \_Ok
- c. F-FDMA
- d. D2D communication \_Ok

86. Which of the following are pain points relating to PC gaming experience? \_MC

- a. High software price \_OK
- b. Piracy
- c. No anywhere anytime access \_OK
- d. Low hardware investment

87. Which of the following NSA networking statements are correct? \_MC

- a. Capable of provisioning new services such as URLLC
- b. LOW Investment in the initial phase of 5G deployment \_OK
- c. Requiring continuous coverage provided by the 5G base solutions
- d. Deployment based on legacy 5G networks \_Ok

88. Which of the following URLLS statements are correct? \_MC

- a. URLLS mainly considers the requirements on network delay. \_ok
- b. URLLC service require a delay of less than 10 ms. \_Ok
- c. The typical application scenario of URLLS include automated driving. ,drones, and telemedicine. \_Ok
- d. In mid-2018, 3GPP release 15 completed the URLLS basic version by the end of 2019, the completed version of 3GPP release 16 was provided \_Ok

89. Which of following are advantages of accessing 5G at ? \_MC

- a. Higher reliability than optical fibers
- b. Flexible deployment .....ok
- c. optical fiber-class rate.....ok
- d. Rapid deployment and go-to-market .....ok

90. Compared with traditional plat preservation which of the following advantages does drone-based plant preservation have? \_MC

- a. higher efficiency than manual operations .....ok
- b. 30% less medicine is used, saving water and protecting the environment. ...ok
- c. precise operation .....ok
- d. high security due to man-machine separation .....ok

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TRUE OF FALSE

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  - a. True .. Ok
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  - b. False .. Ok

---
7. In the 5G era, services will shioft from 2C to emerging vertical industries, including 2B2C, @B, 2H. ..TF
  - a. True ..Ok
  - b. False

---
8. High frequency mmWave is predominately uses 5G wireless coverage. -TF
  - a. True
  - b. False .. Ok

9. The first wave of communication 5G predominately targets eMBB services.
- a. True Ok
  - b. False
10. Standards formulated by Open trial specification alliance (OTSA) also belong to 5G specifications of 3GPP.
- a. True
  - b. False Ok
11. 5G uses edge computing to offload traffic, guaranteeing low latency
- a. True Ok
  - b. False
12. Using a 5G-based transmission line inspection drone can extend the inspection range to several kilometers away.
- a. True ..Ok
  - b. False
13. With the network slicing technology, operators can increase revnue and reduce expenditure, opening up more service scenarios.
- a. True ..Ok
  - b. False

## SINGLE CHOICE

14. Which of the following is the main advantage of the using massive MIMO over traditional MIMO?  
SC
- a. Multiplexing gain
  - b. Single-channel array gain
  - c. 3d beamforming gain .. Ok
  - d. Diversity gain
- 
15. Which of the following key technologies is used to improve data transmission reliability and reduce retransmission caused by data transmission errors, Thereby indirectly improving spectral efficiency?  
\_SC
- a. F-OFDMA
  - b. High-order modulation
  - c. Channel coddng \_OK
  - d. Massive MIMO
16. Which of the following Terms refers to the base station in the radio access network in 5G?
- a. NodeB

- b. eNodeB
- c. gNodeB .. Ok
- d. BTS

17. In 5G, what is the maximum number of RBs when the subscriber spacing is 30KHz and bandwidth is 100 MHz? – SC

- a. 273 \_Ok
- b. 106
- c. 200
- d. 100

18. In the IMT2020 vision, which of the following is correct ratio of 5G service delay to the 4G service delay?

- a. 1/50 ..Ok
- b. 1/10
- c. 1/100
- d. 1/20

19. WHICH OF THE FOLOLOWING ARE THE KEY FACTORY FOR OPERATORS TO SELECT NSA OR SA NETWORKING? -MC

- a. Inventory network devices ..Ok
- b. Return on Investment .. OK
- c. Terminals .. Ok
- d. Technology maturity ..Ok

20. Which of the following frequency bands is used by the Verizon 5F home?

- a. 3.5G Hz
- b. 28 Ghz ..oK
- c. 40 GHz
- d. 2.6 GHz

21. Which of the following is disadvantage of wired (power Line) AMI Technology?

- a. Low Capacity
- b. Immature Technology
- c. Difficult deployment .. Ok
- d. Unable to traverse transformers

22. Who is the applicant for the network slicing? -SC

- a. Tenant .. Ok
- b. Subscribe

- c. Proprietor
- d. User

23. Which of the following is the key 5G capability required by monitoring applications such as connected intelligent infusion in smart healthcare? SC

- a. Low-power small-packet transmission OK
- b. Wireless ultra-broadband access
- c. Anytime, anywhere wireless
- d. Contiguous coverage

24. Which of the following is the user plane function module on the core network in 5G SA networking? SC

- 
- a. AMF
  - b. UDM //HSS OK
  - c. SMF
  - d. UPF // (PDN-GW + SGW)

25. In the 3GPP R15 protocol, which of the following is 5G mmWave? SC

- a. Spectrum above 3GHz
- b. Spectrum above 20Ghz .. Ok
- c. Spectrum above 10Ghz
- d. Spectrum above 5GHz

26. What is minimal air interface latency required in the 5G URLLC application scenario in IMT-2020 vision?

-SC

- a. 1 ms .. Ok
- b. 10 ms
- c. 5 ms
- d. 100 ms

27. Internet of Vehicle (IoV), Requires coordination of network intelligence and infrastructure from vehicle-mounted information services?

- a. True .. OK
- b. False

28. Which of the Following Standards could potentially undermine global 5G unification and cause the industry chain to break? –SC

- a. IEEE
- b. 3GPP
- c. OTSA .. OK

d. 3GPPs

29. Which one of the following must be cloudified first to implement the cloud-based network structure? – SC

- a. Core network ..Ok
  - b. Terminal
  - c. RAN
  - d. Bearer Network
- 

30. In which 3GPP release were the 5G standards first introduced? -SC

- Release 15 .. Ok
- Release 16
- Release 10
- Release 8

31. During 5G Standardization, which of the following is the SA (standalone) architecture developed in? - SC

- Phase 1.2 .. Ok
- Phase 2.1
- Phase 2.2
- Phase 1.1

32. Which of the following statements is correct about uploading AR/VR teaching content to the cloud? -SC

- AR/VR images and audios are efficiently encoded into audio and video streams in the client.
- The cloud computing capability is used to run, render display, and control AP Applications. .. Ok
- Rendering with high requirements on latency is deployed close to user that service data does not need to be transmitted to the core network.
- The edge cloud deployment architecture is recommended to meet the low latency requirements of services.

33. Which one of the following services belongs to URLLS application scenario? -SC

- Automated driving ..Ok
- Intelligent meter reading
- Intelligent parking
- AR/VR

34. Which of the following 5G chipsets does not support 5G mode? –SC

- Balong 5000
- Exynos 5110
- X55
- X50 .. OK

35. What diversity of connections can 5G deliver in the mMTC application scenario in IMT-2020 Vision? –SC
- 100,000 Connections per square kilometer
  - **1 million connections per square kilometer ..OK**
  - 10 million connections per square kilometer
  - 10,000 connections per square kilometer
36. Which of the following is not advantage of a thin client in the cloud X service?
- a. Easy deployment and management
  - b. **Efficient storage ..Ok**
  - c. Mobile
  - d. Low cost
37. Which of the following is the ideal rate of reliability for cooperative automated driving?
- a. 0.999%
  - b. 0.999999%
  - c. 0.9999%
  - d. **0.99999% .. Ok**
38. Which of the following smart healthcare applications projects is dependent on 5G networks? - SC
- a. **Remote surgery through a robot .. OK**
  - b. Medical care monitoring
  - c. Patient Locating
  - d. Infusion monitoring
39. In an industrial internet sensors are used to monitor the status. Which one of the following requirement in this case?
- a. Low delay
  - b. Large bandwidth
  - c. High reliability.
  - d. **Massive connections ..Ok**
40. During 5G standardization, which of the following is the SA (standalone) architecture developed in?
- a. Phase 2.2
  - b. Phase 1.1
  - c. Phase 2.1
  - d. **Phase 1.2 ..Ok**
41. Which of the following services is the most suitable for terminals to implement DRX?\_ SC
- a. VR gaming

- b. Automated driving
- c. Video on-live
- d. **Intelligent meter reading ..Ok**

42. Which of the following is the low-altitude range where drones can work? \_SC

- a. 2000 m
- b. 100 m
- c. **1000 m .. Maybe**
- d. 60 m

43. Which of the following is the terms refers to the base station in the radio network access in 5G? \_SC

- a. NodeB
- b. eNodeB
- c. BTS
- d. **gNodeB ..Ok**

44. Which of the following coding schemes is predominately used for traffic channel in 5G? \_SC

- a. **LDPC ..Ok**
- b. Convolutional code
- c. Polar code
- d. Turbo coding

45. Which of the following TV definitions is equivalent to the definition of the pre-VR full view 4K 2D content? -SC

- a. **240p ..Ok**
- b. 1080p
- c. 480p
- d. 720p

46. Which following service scenario of the smart grid does a separate 5G E@E need to be used? -SC

- a. **Power distribution network protection and control ..Ok**
- b. Mobile operations
- c. Intelligent meter reading
- d. Voice-base dispatch service (trunking group)

47. Which one of the following technologies enables 5G to better support drone services? -SC

- a. AAU vertical coverage
- b. More connected users
- c. **Lower service delay ..Ok**

d. Large cell bandwidth

48. Which one of the following serves as the main application service for 5G deployment phase in the Europe and the United States? -SC

- a. Internet of Vehicles (IoV)
- b. Cloud VR
- c. Smart manufacturing
- d. FWA (Home broadband access) ..Ok

49. Which of the following TV definition is equivalent to the definition of the 8K 2D content in an entry-level full-view scenario? -SC

- a. 240p
- b. 480p ..Ok
- c. 720p
- d. 1080p

50. Which of the following has the highest requirement for the network bandwidth in B-Scan?

- a. Ultrasonic imaging ..Ok
- b. Operation control
- c. Real-time call
- d. Communication between doctors and patients

51. Which of the following is the highest modulation order as defined by 3GPP release 15? -SC

- a. 16QAM
- b. 1024QAM
- c. 64QAM
- d. 256QAM ..Ok

52. Which of the following security features of 5G can identify illegal attacks and reduce the impact of attacks? -SC

- a. Availability ..Ok
- b. Integrity
- c. Confidentiality
- d. Traceability

53. Which of the following is a solution for 5G to switch uplink transmission to the sub-3 GHz low frequency band. Effectively compensating for insufficient uplink coverage of the C-Band? -SC

- a. UL and DL decoupling ..Ok
- b. Carrier aggregation
- c. Duplex technology

- d. Multiple access technique

54. Which of the following is the main requirement for 5G network performance for services such as smart building and smart lamp? -SC

- a. Latency
- b. Rate
- c. **Connections ..Ok**
- d. Mobility

55. Which of the following is the most advanced aspect of the development phase of IoT? \_SC

- a. Fully Automated parking
- b. Lane change assistance
- c. **Automated driving urban areas \_Ok**
- d. Automatic driving in lanes

56. Which of the following is the minimum value of ultra-high voltage (UHV) of a power system? -SC

- a. 330 KV
- b. 220 KV
- c. **800 KV ... Ok**
- d. 35 KV

57. Which one of the following 5G service applications does V2X apply to? \_SC

- a. **IoV \_Ok**
- b. smart grid
- c. Drone
- d. IoT

58. Which of the following 5G security features, which one can be used to record operations for security audit? \_SC

- a. Availability
- b. integrity
- c. **Traceability ....ok**
- d. confidentiality

59. Which of the following service scenarios is the most suitable for terminal to implement DRX? \_SC

- a. **Intelligent meter reading ..ok**
- b. video on-live
- c. VR gaming
- d. Automated driving

60. Which one of the following is the standard configuration for antennas on 5G mobile phones for commercial use? \_SC

- a. 2T2R

- b. 4T4R
- c. **2T4R \_Ok**
- d. 4T4R

61. Which of the following statements is correct about the 5G service-oriented architecture? \_SC

- a. Service-based interface
- b. **Network service are not open to external system \_OK**
- c. Network functions are decoupled and modularized
- d. Network function are combined and deployed as required

62. which of the following chips is the world's first commercial single-chip multi-mode (2g/3g/4g/5g)5g modem? \_SC

- a. **Balong 5000 ..Ok**
- b. 5X50/X55
- c. CXMM-8160
- d. D.Exynos 5510

63. 3G significantly promotes the development of smart healthcare .which of the following application scenarios is the most demanding? \_SC

- a. **A.remote consultation. .... ok**
- b. patient locating
- c. **remote surgery \_Ok**
- d. wireless monitoring

64. Which of the following companies the claimed that it will no longer develop 5G terminal baseband chipsets? \_SC

- a. QUALCOMM
- b. Huawei
- c. **intel ..... ok**
- d. Samsung

65. Which of the following statements is correct about data splitting with Option 3x? \_SC

- a. Bearer-bases data splitting
- b. **Data splitting on the gNodeB side \_OK**
- c. Direct data splitting by the EPC
- d. Data splitting on the eNodeB side

66. Which of the following medical applications does not need to be supported by 5G? \_SC

- a. Remote B-scan
- b. Remote robot endoscope
- c. Remote surgery

**d. Patient locating \_Ok**

67. Which of the following is the recommended position for deploying the user data processing module for automated driving? \_SC
- a. **Edge cloud \_Ok**
  - b. Regional Cloud
  - c. Core cloud
  - d. Access network
68. Which one the following 5G terminals converts 5G signals into Wi-Fi signals for WTTx services? \_SC
- a. Router
  - b. **CPE \_Ok**
  - c. Smartphone
  - d. Mifi.
69. Which of the following companies has claimed that it will no longer develop 5G terminal baseband chipsets?
- a. **Intel .. Ok**
  - b. Samsung
  - c. Huawei
  - d. Qualcomm
70. Which of the following medical applications does not need to be supported by 5G?
- a. **Patient Locating .. Ok**
  - b. Remote surgery
  - c. Remote robot endoscope
  - d. Remote B-scan
71. Which one of the following serves the main application service for 5G in early deployment phase in European union and the united states?
- a. internet of vehicle (IoV)
  - b. cloud VR
  - c. **FWA (home broadband access) .\_Ok**
  - d. smart manufacturing

## MULTIPLE CHOICE

72. Which of the following are major challenges in the 5G era? -MC
- a. **Explosive increase of connected devices ..Ok**
  - b. **Ultra-Low latency for communication between vehicles ..Ok**
  - c. Fase handover on mobile networks

d. **Surging increase of MBB data traffic ..Ok**

73. Which of the following items are included in the 5G phase 3 test led by IMT-2020 (5G) promotion Group? –MC

- a. Field test of the NSA architecture.
- b. Inter-vendor compatibility test
- c. **Indoor test of the SA architecture ..Ok**
- d. **Field test of the SA architecture ..Ok**

74. Which of the following is the pain points relating to PC gaming Experience? -MC

- a. Low Hardware investment
- b. **No anywhere anytime access .. Ok**
- c. Piracy
- d. **High Software price .. OK**

75. 5G can achieve reliable and controllable 5A ubiquitous communication between humans, between humans and things, between things Other than “anytime” and “Anywhere”. Which other three options are part of the 5G concept? –MC // 5A= Anyone, Anytime, Anything, Anywhere , Any-device

- a. **Anyone .. Ok**
- b. Anyhow ..
- c. **Any device .. Ok**
- d. **Anything.. Ok**

76. Which of the following are members of the 5G Open Trial Specification Alliance (OTSA)? -MC

- a. **SKT .. Ok**
- b. Vodafone
- c. **Verizon .. Ok**
- d. **DCM .. Ok**

77. Which of the following are the key requirements of power distribution automation on communication networks? -MC

- a. **Millisecond-level Ultra-low latency .. Ok**
- b. **High isolation .. Ok**
- c. **High reliability .. Ok**
- d. Ultra-high bandwidth

78. Which of the following belong to 5G NSA networking? MC

- a. Options 2 // SA (NGC)
- b. **Option 3x .. Ok (CP will eNodeB, UP will be by gNodeB which is directly connect to EPC)**
- c. **Option 3a .. Ok (Data rendering CP for eNodeB, UP => EPC statically)**

d. **Option 3 .. Ok //early drop family (Every thing will be on LTE eNodeB)**

// Option 4 -> (CP will be NGC, UP will be shared eNodeB and gNodeB)

// Option 4a-> (Data rendering CP for eNodeB, UP => EPC statically)

// option 7-> (LTE will be dependent on 5G network.

79. Which of the following benefits does 5G bring to automated driving? –MC

- a. **Removing single-vehicle intelligence and achieving intellegtn coordination. ..Ok**
- b. **Interactive perception and experience improvement. ..OK**
- c. **Low latency. Reducing read uncertainty ..Ok**
- d. **Making up for the constraints on sensors due to distance and**

**environment. ..Ok**

80. In the following terminal moving speeds are supported for 5G?

-MC

- a. **300 Km/h .. Ok**
- b. **500 Km/h .. Ok**
- c. 600 Km/h
- d. **400 km/h .. Ok**

81. Which of the following massive MIMO statements are correct? -MC

- a. **Massive MIMO uses Large-scale antenna arrays ..Ok**
- b. **Massive MIMO improves capacity of a single call .. Ok**
- c. Only horizontal beamforming is available
- d. **Legacy wide beams are replaced with narrow beams by adjusting then beam weight. ..Ok**

82. Which of the following are disadvantages of using drones on 4G communication networks? –MC

- a. **Delivering flight control command is slow. ..Ok**
- b. **The signal strength is dtrong when lower the 120 from the ground but the connection is easily lost when the height exceeds 120m. ..Ok**
- c. The uplink data rate is low.
- d. **The drone height is not within the mail lobe of the ground station antenna. The air signals are in disarray. There is no primary coverage cell. Frequent handovers caus significant downlink interference for terminals. ..OK**

83. Which of the following security technologies are used on a 5G network? -MC

- a. **End-to-end security protection between PLMNs ..Ok**
- b. **256-bit encryption algorithm ..OK**
- c. **Integrity protection on the user plane over the air interface. ..Ok**
- d. **Encrypted IMSI transmission ..Ok**

84. Which of the following are 5G technologies defined in 3GPP release 15? \_MC

- a. **Massive MIMO \_OK**

- b. **Flexible subframe structure \_OK**
- c. New mutli-access technology

d. **New waveform**

85. Which of the following URLLS statements are correct? **\_MC**

- a. **In mid-2018, 3GPP release completed the URLLC basic version, By the end of 2019, the completed version of 3GPP release 16 was provided. \_Ok**
- b. **The typical application scenarios of URLLS include automated driving, drones, and telemedicine. \_Ok**
- c. **URLLS services require a delay of less than 10 ms \_OK**
- d. **URLLS mainly considers the requirements on network delay. \_Ok**

86. Which of the following technical solutions reduce the 5G delay? **\_MC**

- a. **Shortening the resource allocation interval \_Ok**
- b. **Dynamic uplink and down link resources allocation \_Ok**
- c. **F-FDMA**
- d. **D2D communication \_Ok**

87. Which of the following are pain points relating to PC gaming experience? **\_MC**

- a. **High software price \_OK**
- b. **Piracy**
- c. **No anywhere anytime access \_OK**
- d. **Low hardware investment**

88. Which of the following NSA networking statements are correct? **\_MC**

- a. **Capable of provisioning new services such as URLLC**
- b. **LOW Investment in the initial phase of 5G deployment \_OK**
- c. **Requiring continuous coverage provided by the 5G base solutions**
- d. **Deployment based on legacy 4G networks \_Ok**

89. Which of the following URLLS statements are correct? **\_MC**

- a. **URLLS mainly considers the requirements on network delay. \_ok**
- b. **URLLC service require a delay of less than 10 ms. \_Ok**
- c. **The typical application scenario of URLLS include automated driving. ,drones ,and telemedicine. \_Ok**
- d. **In mid-2018, 3GPP release 15 completed the URLLS basic version by the end of 2019, the completed version of 3GPP release 16 was provided \_Ok**

90. Which of following are advantages of accessing 5G at ? **\_MC**

- a. **Higher reliability than optical fibers**
- b. **Flexible deployment .....ok**
- c. **optical fiber-class rate.....ok**
- d. **Rapid deployment and go-to-market .....ok**

91. Compared with traditional plant preservation which of the following advantages does drone-based plant preservation have? **\_MC**

- b. higher efficiency than manual operations ....ok
- c. 30% less medicine is used, saving water and protecting the environment. ...ok
- d. precise operation ....ok
- e. high security due to man-machine separation ....ok

92. Which of following V2X service statements is incorrect?

- a. centralized deployment ..... ok
- b. third-party algorithm deployment framework
- c. centimeter level positioning
- d. capable of evolution to cooperative automated driving

93. In an industrial internet, sensors are used to monitor the status. which one of the following is the network requirement case?

- a. massive connections ....ok
- b. high reliability
- c. low delay
- d. large bandwidth

94. Which of the following are the development phases of C-V2X?

- a. GSM-V2X
- b. LTE-V2X....ok
- c. 5G=V2X.....ok
- d. UMTS-V2X

95. Which of the following is a new service in the 5G era?

- a. SMS
- b. High-reliability and low-latency services .....ok
- c. Mobile internet
- d. N8-LoT

96. Using 5G to implement AR and assist industrial operation guidance is typical eMBB scenario

- a. true
- b. false ..... ok

97. 3GPP Release 15 protocols are divided into three stage : non standalone (NSA) networking, late drop

- a. true
- b. false ....ok

98. Which or the following are members of the 5G open trail specification Alliance (OTSA) ?

- a. SKT.....ok
- b. Vodafone
- c. Verizon....ok
- d. DCM...ok

99. Which of the following is true 100 Mbps eMBB service?

- a. tik tok
- b. face time
- c. 1080 video
- d. 8k VR**

100. Which one of the following solution cannot reduce end-to-end delay ?

- a. large-capacity spectrum bandwidth ..... ok**
- b. control and user plane separation ( CUPS) on the core network
- c. RTT optimization over the air interface
- d. using a low-latency bearer network

101. Which of the following organization defines 5G standards?

- a. 3GPP**
- b. 3GPP2
- c. OTSA
- d. JEE

102. Which of the following is not an advantage of a thin client in the cloud x service?

- a. low cost
- b. mobile
- c. efficient storage ....ok**
- d. easy deployment and management

103. Which of the following is the maximum bandwidth of 5G mmWave defined by 3GPP release 15 ?

- a. 400 MHz ....ok**
- b. 8.50 MHz
- c. 200 MHz
- d. 100 MHz

104. In the IMT2020 vision, which of following is correct ratio of 5G service delay to the 4G service delay?

- a. 1/100
- b. 1/20
- c. 1/10
- d. 1/50 ....ok**

105. Which of following coding schemes is predominantly used for traffic channel in 5G?

- a. palor code
- b. turbo coding
- c. convolutional code
- d. LDPC .....ok**

106. Which of following is the 5G IoV alliance organization?

- a. OTSA
- b. X.lab

- c. 5GAA ....ok
  - d. 3GPP
107. Which of following are the key of intelligent distributed power distribution automation on combination network?
- a. Millisecond-level ultra-low latency .....ok
  - b. high isolation ....ok
  - c. high reliability....ok
  - d. massive access form tens of millions of terminals
108. The 5G technology is a requirement for automated driving.
- a. true
  - b. false .....ok
109. Sub-3 GHz spectrum resources can be dynamically shared with 5G spectrums by using the cloud AIR technology
- a. true ....ok
  - b. false
110. Which one of the following solutions cannot reduce end-to-end delay?
- a. RTT optimization over the air interface
  - b. using a low latency bearer network
  - c. control and user plane separation (CUPS) on the core network
  - d. large-capacity spectrum bandwidth .... ok
111. Which one of the subcarriers spacing yield the highest spectral efficient for 5G cells on 50MHz bandwidth?
- a. 30kHz ....ok
  - b. 60kHz
  - c. 15kHz
112. In the initial phase of 5G network construction, vertical industry applications should have low requirements for continuous coverage.
- a. True .... ok
  - b. false
113. Which of the following are advantages of accessing 5G at home?
- a. rapid deployment and go to market .....ok
  - b. optical fiber-class rate .....ok
  - c. higher reliability than optical fibers....ok
  - d. flexible deployment .....ok
114. Which of the following scenarios involve edge computing?
- a. AR\_OK
  - b. IOT

- c. **Auxiliary sensitive computing \_OK**
  - d. **IoV \_OK**
115. Which of the following NSA networking statement are correct?
- a. **deployment based on legacy 4G networks \_OK**
  - b. requiring continues coverage provide by 5G base stations
  - c. capable of provisioning new services such as URLLC
  - d. **low investment in the initial phase of 5G deployment \_OK**
116. Which of the following is minimum latency requirement of 1080p cloud games?
- a. **100 ms ...ok**
  - b. 1 s
  - c. 1ms
  - d. 10ms
117. Which one of the following can be achieved with level 3 of automated driving?
- a. occasional automatic intervention driving
  - b. auxiliary functions such as driving reminder
  - c. **Conditional automated driving requiring continuous from the driver .....ok**
  - d. autonomous driving
118. which of the following IoV application scenarios can be implement by 5G-V2X?
- a. **in vehicle infotainment (IVI)....ok**
  - b. **Visualized traffic operation and scheduling .....ok**
  - c. **door-to-door traffic information service \_ OK**
  - d. **vehicle-road coordination ....ok**
119. which of the following options are supported by 3GPP release lateDrope?
- a. option2
  - b. **option4. \_Ok**
  - c. Option3
  - d. **option7. \_Ok**
120. which of the following are service seniors where VR is predominately used?
- a. industrial manufacturing
  - b. **Gaming .\_Ok**
  - c. **Video .\_Ok**
  - d. **Education .\_Ok**
121. Which of the following is the main advantage of using massive MIMO over traditional MIMO
- a. diversity gain
  - b. **3d beamforming gain .\_Ok**
  - c. single-channel array gain
  - d. multiplexing gain

122. Which of the following operation in remote surgery require network support?
- a. operational control \_Ok
  - b. real-time construction audio video \_OK
  - c. control desktop
  - d. surgery footage \_OK
123. Which of the following benefits are bought by 5G to doctors and patients?
- a. more efficient and timely \_Ok
  - b. more secure \_OK
  - c. more economical \_Ok
  - d. solving the shortage medical staff \_Ok
124. What is the maximum throughput provide by 5G in the eMBB application scenario in IMT-2020 vision?
- a. 10Gbps \_Ok
  - b. 100Mbps
  - c. 1Gbps
  - d. 100Gbps
125. Which of the following is the key technology to enhance high-altitude coverage 5G network?
- a. UL and decoupling
  - b. f-OFDMA
  - c. 256QAM
  - d. Massive MIMO \_Ok
126. Which of the following architectures can be used with the multi-stream aggregation (MSA) technology to implement coordination between LTE and 5G?
- a. option2
  - b. option3x \_Ok
  - c. option 3 \_Ok
  - d. option 3a \_Ok
127. internet of vehicles (IOV), requires coordination of network intelligence from vehicle-mounted information service to intelligent transportation
- a. true \_Ok
  - b. false
128. Which of the following are commercial product in the 5G terminal industry
- a. vehicle-mounted mobile module \_Ok
  - b. mobile handheld \_Ok
  - c. mobile MiFi hotspot device
  - d. home cpe gateway \_Ok
129. Which of the following is the maximum round trip time (RTT) of 5G-V2X?
- a. 10ms

- b. 5ms  
c. 20ms .\_Ok  
d. 50ms
130. Which of the following is the rate of reliability for cooperative automated driving a. 0.99999% .\_Ok  
b. 0.9999%  
c. 0.9999999%  
d. 0.999%
131. Cloud pc is one of the three important eMBB services defined by Huawei in cloud X a. true .\_Ok  
b. false
132. Which of the following are commercial products in the 5G terminal industry?  
a. vehicle-mounted mobile module .\_Ok  
b. mobile handheld terminal .\_Ok  
c. mobile MIFI hotspot device  
d. home CPE gateway .\_Ok
133. Which of the following is the maximum round trip time (RTT) of 5G-V2X?  
a. 10ms  
b. 5ms  
c. 20ms .\_Ok  
d. 50ms
134. Which of the following are points of electronic power telecommunication?  
a. public network GPRS with low rate and long delay unable to provision telecontrol, tele indication and telemetering, slow fault locating .\_Ok  
b. high cost for monitoring service carried by operator 4G network \_OK  
c. low security and reliability of electric power services carried on public network .\_Ok  
d. incapable of collecting electric consumption information, costly manual meter reading .\_Ok
135. Which one of the following levels of precision are possible with the 3G+RTK function?  
a. to the centimeter  
b. to the meter  
c. to the submeter .\_Ok  
d. to the millimeter
136. Which following 5G scenario specification is predominately completed in the 3GPP R15 version  
a. mMTC  
b. uRLLC  
c. eMBB .\_Ok  
d. MBB

137. Which one of the following serves the main application service for 5G in early deployment phase in European Union and the United States?
- a. Internet of Vehicle (IoV)
  - b. Cloud VR
  - c. FWA (home broadband access) **\_Ok**
  - d. Smart Manufacturing
138. Which of the following advantages are experienced by cloud game user?
- a. **no need to buy expensive hardware \_OK**
  - b. **game playing anytime without waiting free of installation, upgrade or maintenance. OK**
  - c. **cloud archiving available anytime allowing seamless switchover between different devices OK**
  - d. **gaming running on the cloud, which facilitates copyright protection \_OK**
139. Which of the following statements is correct about data splitting with option 3x?
- a. data splitting on the eNodeB side
  - b. direct data splitting by EPC
  - c. **data splitting on the gNodeB side. \_Ok**
  - d. bearer-based data splitting
140. Which significantly promotes the development of smart care. Which of the following application scenarios is the most demanding?
- a. Wireless monitoring
  - b. **Remote surgery .\_Ok**
  - c. patient locating
  - d. Remote construction
141. Device-to-Device (D2D) allows devices to communicate with each other without requiring a network?
- a. **True**
  - b. False
142. Which of the following 5G service applications does unmanned aerial vehicle (UAV) refer to?
- a. SMART grid
  - b. AUTOMATED DRIVING
  - c. IoT
  - d. **Drone .\_Ok**
143. Open Mobile Alliance (OMA) predominantly promotes the release and application of 28 GHz spectrum.
- a. **True**
  - b. False

# HCIA-5G (H35-660-ENU) Mock Exam

## Exam Detail Report



	True or False	Single Choice	Multiple Choice	Subtotal
Question Count	4	10	6	20
Score	20	50	30	100
Score	15	40	10	65

### Personal Information

Account	uniportal_mwx620156
Full Name	Mazhar Abbas
Department	Temp
Job	Temp

## True or False

1. For the same mobile phone, adopting the massive MIMO technology can greatly increase the peak data rate of a single user.

- True  
 False

Right Answer: False

My Answer: False

2. C-V2X is short for Advanced Driver Assistance System.

- True  
 False

Right Answer: False

My Answer: True

3. Each generation of mobile communications system begins with the 3GPP requirement for a new system.

- True  
 False

Right Answer: True

My Answer: True

4. VR uses related devices to block users' vision in the real world and brings their senses into an independent and brand-new virtual space.

- True  
 False

Right Answer: True

My Answer: True

## Single Choice

5. How long is the latency required for remote vehicle control technology to deliver excellent user experience?

- A.< 1ms  
 B.< 4ms  
 C.< 10ms  
 D.< 20ms

Right Answer: B

My Answer: B

6. Which of the following is the 5G commercial service launched by Verizon on October 1, 2018?

- A.VR  
 B.FWA  
 C.UAV  
 D.IoV

Right Answer: B

My Answer: B

7. Which of the following statements about the number of antennas for 5G smartphones is true?

- A.1T2R  
 B.2T2R  
 C.2T4R  
 D.4T4R

Right Answer: C

My Answer: C

8. What does the bicycle intelligence technology in the IoV refer to?

- A.ADAS
- B.DSRC
- C.V2I
- D.V2P

Right Answer: A

My Answer: A

9. Which of the following technologies is used to transmit the control information and data of UAVs?

- A.2G
- B.WCDMA
- C.WIFI
- D.5G

Right Answer: C

My Answer: D

10. Which of the following is a URLLC application scenario?

- A.VR
- B.HD video
- C.Telemedicine
- D.Smart meter reading

Right Answer: C

My Answer: C

11. When was the term IMT-2020 determined as the formal name of 5G?

- A.2013
- B.2014
- C.2015
- D.2016

Right Answer: C

My Answer: C

12. Which of the following locations is suitable for deploying IoV servers?

- A.Edge DC
- B.Regional DC
- C.Core DC
- D.Provincial capital DC

Right Answer: A

My Answer: A

13. What is the E2E network latency requirement for the Cloud VR in the Ideal-Experience phase?

- A.Less than 50 ms
- B.Less than 20 ms
- C.Less than 15 ms
- D.Less than 8 ms

Right Answer: D

My Answer: C

14. In addition to the connection increase technology, what other technology is required for the smart meter reading service?

- A.Rate improvement technology
- B.Latency reduction technology
- C.Connection increase technology
- D.Coverage enhancement technology

Right Answer: D

My Answer: D

### Multiple Choice

15. At crossroads, how can IoV vehicles obtain information to reduce collision risks?

- A.V2I
- B.V2V
- C.V2P
- D.V2N

Right Answer: B,C

My Answer: B,C

16. Which of the following services need to consider the design of user plane deployment to network edge?

- A.Smart meter
- B.UAV-assisted inspection
- C.Autonomous driving
- D.Remote surgery

Right Answer: B,C,D

My Answer: A,B,C,D

17. Which of the following benefits can be achieved by massive MIMO?

- A.Increased cell capacity
- B.Reduced intra-cell interference
- C.Enhanced cell coverage
- D.Improved single-user peak rate

Right Answer: A,B,C

My Answer: A,B,C,D

18. Which of the following are advantages of globally unified 5G standards?

- A.High service quality
- B.Mature industry chain
- C.Low equipment costs
- D.Global seamless roaming

Right Answer: B,C,D

My Answer: A,B,C,D

19. Which of the following key technologies will be used in the Cloud VR service?

- A.Rate improvement technology
- B.Latency reduction technology
- C.Connection increase technology
- D.Coverage enhancement technology

Right Answer: A,B

My Answer: B,D

20. Compared with low-frequency communication, high-frequency communication has two major challenges. What are them?

- A.Larger carrier bandwidth
- B.Large propagation loss and weak diffraction capability
- C.Unbalanced uplink and downlink coverage
- D.Large phase noise of RF instruments

Right Answer: B,C

My Answer: B,C

# HCIA-5G (H35-660-ENU) Mock Exam

## Exam Detail Report



	True or False	Single Choice	Multiple Choice	Subtotal
Question Count	4	10	6	20
Score	20	50	30	100
Score	10	25	5	40

### Personal Information

Account	uniportal_mwx620156
Full Name	Mazhar Abbas
Department	Temp
Job	Temp

## True or False

1. For the same mobile phone, adopting the massive MIMO technology can greatly increase the peak data rate of a single user.

- True  
 False

Right Answer: False

My Answer: True

2. 5G is an end-to-end, mobile, and fully-connected ecosystem.

- True  
 False

Right Answer: True

My Answer: True

3. According to the established 5G standards, the 5G control plane uses Polar coding, and the user plane uses LDPC coding.

- True  
 False

Right Answer: False

My Answer: True

4. In the future, the flight position and status of UAVs can be transmitted to the surveillance platform in real time through the 5G network.

- True  
 False

Right Answer: True

My Answer: True

## Single Choice

5. What network technologies are included in the C-V2X?

- A.4G or 5G  
 B.Only 5G  
 C.Only 4G  
 D.3G

Right Answer: A

My Answer: B

6. How long is the latency required for remote vehicle control technology to deliver excellent user experience?

- A.< 1ms  
 B.< 4ms  
 C.< 10ms  
 D.< 20ms

Right Answer: B

My Answer: C

7. Which of the following is the 5G commercial service launched by Verizon on October 1, 2018?

- A.VR  
 B.FWA  
 C.UAV  
 D.IoV

Right Answer: B

My Answer: B

8. Which of the following statements about the number of antennas for 5G smartphones is true?

- A.1T2R
- B.2T2R
- C.2T4R
- D.4T4R

Right Answer: C

My Answer: C

9. What does the bicycle intelligence technology in the IoV refer to?

- A.ADAS
- B.DSRC
- C.V2I
- D.V2P

Right Answer: A

My Answer: C

10. In which release will the D2D technology be frozen?

- A.R8
- B.R14
- C.R15
- D.R16

Right Answer: D

My Answer: D

11. When was the term IMT-2020 determined as the formal name of 5G?

- A.2013
- B.2014
- C.2015
- D.2016

Right Answer: C

My Answer: C

12. Which of the following locations is suitable for deploying IoV servers?

- A.Edge DC
- B.Regional DC
- C.Core DC
- D.Provincial capital DC

Right Answer: A

My Answer: A

13. In which phase of the Gartner's Hype Cycle does the VR technology stays currently?

- A.Technology Trigger phase
- B.Inflated Expectations phase
- C.Trough of Disillusionment
- D.Slope of Enlightenment

Right Answer: D

My Answer: B

14. In addition to the connection increase technology, what other technology is required for the smart meter reading service?

- A.Rate improvement technology
- B.Latency reduction technology
- C.Connection increase technology
- D.Coverage enhancement technology

Right Answer: D

My Answer: B

### Multiple Choice

15. Which of the following communications technology standards are defined by the 3GPP?

- A.WCDMA
- B.CDMA2000
- C.LTE
- D.LTE-A

Right Answer: A,C,D

My Answer: B

16. At crossroads, how can IoV vehicles obtain information to reduce collision risks?

- A.V2I
- B.V2V
- C.V2P
- D.V2N

Right Answer: B,C

My Answer: A,B,C,D

17. Which of the following are the main reasons of difficulties in UAV management?

- A.The departure time cannot be obtained.
- B.The departure location cannot be obtained.
- C.Non-real-name purchase
- D.UAVs are too small.

Right Answer: A,B,C

My Answer: A,B,D

18. Which of the following 5G network technologies can reduce the end-to-end latency?

- A.Scheduling-free technology
- B.MEC
- C.Massive MIMO
- D.D2D

Right Answer: A,B,D

My Answer: B,C,D

19. Which of the following frequency bands are suitable to be used as the uplink frequency band in uplink and downlink decoupling?

- A.1800 MHz
- B.1900 MHz
- C.800 MHz
- D.900 MHz

Right Answer: A,B,C,D

My Answer: A,B,C,D

20. Compared with low-frequency communication, high-frequency communication has two major challenges. What are them?

- A.Larger carrier bandwidth
- B.Large propagation loss and weak diffraction capability
- C.Unbalanced uplink and downlink coverage
- D.Large phase noise of RF instruments

Right Answer: B,C

My Answer: A,B,C,D

## True or False

1. C-V2X is short for Advanced Driver Assistance System.

- True  
 False

Right Answer: False

My Answer:

2. Each generation of mobile communications system begins with the 3GPP requirement for a new system.

- True  
 False

Right Answer: True

My Answer:

3. According to the established 5G standards, the 5G control plane uses Polar coding, and the user plane uses LDPC coding.

- True  
 False

Right Answer: False

My Answer:

4. In the future, the flight position and status of UAVs can be transmitted to the surveillance platform in real time through the 5 G network.

- True  
 False

Right Answer: True

My Answer:

## Single Choice

5. What network technologies are included in the C-V2X?

- A.4G or 5G  
 B.Only 5G  
 C.Only 4G  
 D.3G

Right Answer: A

My Answer:

6. Which of the following statements about the number of antennas for 5G smartphones is true?

- A.1T2R  
 B.2T2R  
 C.2T4R  
 D.4T4R

Right Answer: C

My Answer:

7. What does the bicycle intelligence technology in the IoV refer to?

- A.ADAS  
 B.DSRC  
 C.V2I  
 D.V2P

Right Answer: A

My Answer:

8. When was the 3GPP founded?

- A.1996
- B.1998
- C.2000
- D.2002

Right Answer: B

My Answer:

9. Which of the following is a URLLC application scenario?

- A.VR
- B.HD video
- C.Telemedicine
- D.Smart meter reading

Right Answer: C

My Answer:

10. In the 5G eMBB scenario, which of the following coding schemes is used for control channels?

- A.Turbo
- B.Convolutional code
- C.Polar
- D.LDPC

Right Answer: C

My Answer:

11. In which aspect do police UAVs have special requirements, in addition to network latency?

- A.Security
- B.Cost
- C.Connections
- D.Bandwidth

Right Answer: D

My Answer:

12. Which of the following is not an advantage of 5G connected UAVs compared with the 4G network?

- A.5G services can be deployed through network slicing.
- B.Real identity of users
- C.The 5G network supports high data rate.
- D.The 5G supports ultra-large connections.

Right Answer: B

My Answer:

13. Which of the following locations is suitable for deploying IoV servers?

- A.Edge DC
- B.Regional DC
- C.Core DC
- D.Provincial capital DC

Right Answer: A

My Answer:

14. In which phase of the Gartner's Hype Cycle does the VR technology stays currently?

- A.Technology Trigger phase
- B.Inflated Expectations phase
- C.Trough of Disillusionment
- D.Slope of Enlightenment

Right Answer: D

My Answer:

### Multiple Choice

15. Which of the following 5G network technologies can reduce the end-to-end latency?

- A.Scheduling-free technology
- B.MEC
- C.Massive MIMO
- D.D2D

Right Answer: A,B,D

My Answer:

16. Which of the following benefits can be achieved by massive MIMO?

- A.Increased cell capacity
- B.Reduced intra-cell interference
- C.Enhanced cell coverage
- D.Improved single-user peak rate

Right Answer: A,B,C

My Answer:

17. Which of the following are advantages of globally unified 5G standards?

- A.High service quality
- B.Mature industry chain
- C.Low equipment costs
- D.Global seamless roaming

Right Answer: B,C,D

My Answer:

18. Which of the following frequency bands are suitable to be used as the uplink frequency band in uplink and downlink decoupling?

- A.1800 MHz
- B.1900 MHz
- C.800 MHz
- D.900 MHz

Right Answer: A,B,C,D

My Answer:

19. Which of the following key technologies will be used in the Cloud VR service?

- A.Rate improvement technology
- B.Latency reduction technology
- C.Connection increase technology
- D.Coverage enhancement technology

Right Answer: A,B

My Answer:

20. Compared with low-frequency communication, high-frequency communication has two major challenges. What are they?

- A.Larger carrier bandwidth
- B.Large propagation loss and weak diffraction capability
- C.Unbalanced uplink and downlink coverage
- D.Large phase noise of RF instruments

Right Answer: B,C

My Answer:

## HCIA 5G Iraq Training Mock

1- The formal name of 5G is IMT-2020, which was defined by ITU-R.

- A. True
- B. False

2- For eMBB scenario of 5G, the peak rate is required to reach.

- A. 1Gbps
- B. 10 Gbps**
- C. 100 Gbps
- D. 1000 Gbps

3- Based on the vision defined by ITU on 5G, how many connections should be supported in one square kilometer for mMTC scenario?

- A. 1000
- B. 10,000
- C. 100,000
- D. 1,000,000**

4- Based on the developing trend, what new characteristics could 5G network have?

- A. Higher rate**
- B. Stronger network connectivity capability**
- C. Lower latency**
- D. More complex network structure

5- To realize the general vision on 5G, what application scenarios have been defined by ITU?

- A. eMBB**
- B. mMTC**
- C. VoIP
- D. uRLLC**

6- uRLLC cannot be supported by NSA mode.

- A. True**
- B. False

7- Sub6G Hz includes sub3G and C-band.

- A. True**
- B. False

8- In current eMBB scenario, what channel coding method is adopted on control channels of 5G air interface?

- A. LDPC
- B. Turbo
- C. Convolutional code
- D. Polar**

9- Which ones of the below techniques can be used to solve the uplink and downlink imbalance problem of 5G radio network?

- A. Uplink and downlink decoupling (SUL)**
- B. Dual connection (MSA)**
- C. CU and DU separation
- D. LDPC coding

10- Which ones of the below 5G core network functions belong to control plane?

- A. AMF**
- B. UPF
- C. SMF**
- D. PCF**

11- Considering the safety of automated driving service, it is required to control the latency of the mobile network on nano-second level.

- A. True
- B. False**

12- The vertical industries have requirement on service isolation. The requirement can be satisfied by network slicing technology.

- A. True**
- B. False

13- For intelligent grid service, power transmission and power generation will be the main application field for 5G.

- A. True
- B. False**

14- Based on the ultra-low latency of 5G network, what new services can 5G support?

- A. Remote health care**
- B. Automated driving**
- C. Intelligent manufacturing**
- D. HD voice

15- Based on 5G network, what benefits can CloudVR bring comparing with the radiational PC VR?

- A. Effective control on copyright**
- B. Lowering the VR terminal cost**
- C. Better experience on mobility**
- D. Increasing the VR terminal prices

16- C-V2X is a global standard communication technology specified by 3GPP, which includes LTE-V2X and 5G-V2X.

- A. True**
- B. False

17- DSRC provides short-distance wireless transmission technology based on IEEE802.16, which is mainly used to vehicle-to-vehicle and vehicle-to-road communication

- A. True
- B. False**

18- Which of the below key technologies of 5G can effectively support the precise load control of the intelligent grid?

- A. Massive MIMO
- B. Based station cloudification
- C. Edge computing**

D. F-OFDM

19- The typical valued application scenarios of remote driving in 5G includes

- A. Campus shuttle bus
- B. Port transportation
- C. Mining area transportation in harsh environment
- D. Vehicle resource Scheduling

20- Why is 5G technology required for automated driving?

- A. 5G can provide lower latency
- B. It is not restricted by the distance and environment
- C. Promoting the evolution from single-vehicle to collaborative intelligence
- D. Better interactive experience