

TNUSRB SI Technical – Model Question Paper 1

1. What J.B Dunlop invented?
A)Pneumatic rubber tire
 B)Automobile wheel rim
 C)Rubber boot
 D)Model Airplanes
2. For over 500 years, paper was only available and solid as single sheets. In 1902, an inventive Australian used half size sheets of paper, a bit of glue and cardboard to create what?
A)Notepad B)Calendar
 C)Notice Board D)Telephone Book
3. MIRV stands for
 A)Multi dimensional Independent Reentry Vehicle
 B)Multi directional Independently Reoriented Vehicle
C)Multiple Independently –targetable Re entry Vehicle
 D)Multi-purpose Integrally-targeted Revolutionary Vehicle
4. The largest part of Fore brain is called
A)Cerebrum B)Thalamus
 C)Hypothalamus D)Hippocampus
5. The exchange of gases between inhaled air and blood is referred as
 A)Cellular respiration
B)External respiration
 C)Internal respiration
 D)Circulatory respiration
6. The disease carrying agents are called as
A)Vectors B)Pathogens
 C)Symptoms D)Reservoirs
7. Leaf blind in Rice is caused by
 A)Virus **B)Bacteria**
 C)Fungus D)Protozoa
8. Vitamin A is called
 A)Thiamine **B)Ratinol**
 C)Riboflovin D)Pyridoxin
9. A cross between two parents that differed in a single pair of related characters is called
 A)Dihybrid **B)Monohybrid**
 C)Reciprocal cross D)Test cross
10. Gaseous planets
 I. Mercury, Venus II. Jupiter, Saturn
 III. Earth, Mars IV. Uranus, Neptune
 (A) I, II (B) II, III
 (C) I, III **(D) II, IV**
11. Find out the wrong statement
 I. Pluto, Charon, Ceres, Eris were Dwarf plants
 II. Dwarf plantes grouped at 2006
 III. Dwarf planets revolves around the sun and earth
 IV. Dwarf planets sizes is smaller than that of our moon
 (A) I wrong (B) II wrong
(C) III wrong (D) IV wrong
12. The plant that can be viewed only through a telescope is
 (A) Mercury **(B) Uranus**
 (C) Mars (D) Venus
13. Where is India's 13th Oil Refinery setup?
A)Narimanam B)Kalpakkam
 C)Trivandrum D)Srinagar
14. Living chemistry is
A) Carbon chemistry
 B)Hydrogen chemistry
 C) Organic chemistry
 D) Inorganic chemistry
15. How many seats are reserved for scheduled Castes to Lok sabha in India as per Representation of People (Amendment)Act, 2008?
 A)79 **B)84**
 C)90 D)95

16. Name the largest river in South India?
A) Godavari B) Krishna
 C) Cauvery D) Mahanadi
17. Which article of the Indian Constitution ensure equality before law?
 A) Article 13 B) Article 12
C) Article 14 D) Article 20
18. Indira Gandhi Centre for Atomic Research (IGCAR) is situated in?
 A) Kundankulam, Tamilnadu
B) Kalpakkam, Tamilnadu
 C) Tara pore, Maharashtra
 D) Kaiga, Karnataka
19. Which of the following ministry launched “Prakriti Jhoj”?
 A) Women and Child Ministry
 B) Sports Ministry
C) Environment Ministry
 D) Power Ministry
20. The Chief Election Commissioner is appointed for the period of?
 A) 5 B) 7
 C) 4 **D) 6**
21. The permanent seat of supreme court is in
 A) Mumbai B) Kalkata
C) Delhi D) Kanpur
22. The basic purpose of Panchayat Raj is
 A) to give posts for party members
B) Democratic decentralization
 C) to collect taxes directly
 D) None
23. Which one of the following has connection with Ajanta Caves?
 A) Panchatantra **B) Jatakas**
 C) Patali D) Karla
24. Which of the following is called as “Temple City”?
A) Dwarka B) Aithole
 C) Srinagar D) Badami
25. SI unit of force is
 A) Amphere B) **Newton**
 C) Hertz D) None of these
26. Untouchability is a/an ___evil
A) Social B) Economic
 C) political D) Religious
27. Number of amino acids that can be synthesized by the human body is
 A) 25 B) 15
C) 20 D) 10
28. Under which High Court Andaman and Nicobar islands come?
 A) Madras **B) Calcutta**
 C) Kerala D) Andhra
29. The Founder of the Dravida Kazhagam was?
 A) VOC B) Subramaniam
 C) Annadurai **D) E.V.R. Periyar**
30. The speed of light will be minimum while passing through
A) Glass B) Vacuum
 C) Water D) Air
31. In India where could one find the largest number of people living below the poverty line?
 A) Madhya Pradesh B) Rajasthan
 C) Delhi **D) Bihar**
32. Which is the fastest spreading disease?
A) Malaria B) Plague
 C) Polio D) Leprosy
33. Name the Newspaper started by Annie Besant?
 A) Young India **B) New India**
 C) India D) Sudesi
34. India Navy to use US air craft launch system named as?
 A) EMALS **B) CATOBAR**
 C) SAAW D) LARSET
35. Who has elected as president of the Institute for Defense Studies and Analysis (IDSA)?

- A) Rajeev kumar
B) Nirmala sitaraman
 C) Singh
 D) Shyan Kamal Mukherjee
36. Which of the following bank has launched an instant international payment service using ripple net?
 A) **Axis bank** B) ICICI bank
 C) HDFC bank D) HDFC bank
37. Which of the following country unveiled Asia's largest Island building vessel?
 A) **China** B) Japan
 C) Indonesia D) India
38. Bajrang punia and vinoid kumar bags silver U23 world wrestling championship held in?
 A) Argentina B) Spain
 C) Thailand **D) Poland**
39. Inventor of the first dynamo
 A) Galileo B) Newton
 C) **Faraday** D) Flemming
40. Kilowatt is the unit of
 A) potential difference **B) electric power**
 C) electric energy D) charge
41. South Indian liberal federation is otherwise known as the
 A) Dravidan party B) Janatha party
 C) Telugu Desan **D) Justice party**
42. Kamaraj was famous for his policy
 (A) 'S' plan (B) 'L' plan
 (C) '**K' plan** (D) 'J' Plan
43. At the time of Gandhiji death who remarked, 'The light has gone out of our lives and there is darkness everywhere'
 (A) Nethaji **(B) Nehru**
 (C) Tilak (D) Patel
44. Which was famous for silk.
 A) Bengal **B) Benares**
 C) Kashmir D) Ludhiana
45. Who first coined the word "Industrial Revolution"?
 A) **Arnold Toynbee** B) Lenin
 C) Stalin D) Lincoln
46. Who can be called as the father of local self government in India?
 A) Lord Minto B) Lord Curzon
 C) Lord Defferin **D) Lord Rippon**
47. The first Municipal Corporation in India was established in
 A) Delhi
B) Madras [Chennai]
 C) Hyderabad
 D) Bombay [Mumbai]
48. What is the main crop of Arunachal Pradesh?
 A) **Paddy** B) Wheat
 C) Barley D) Ragi
49. Who rejected untouchability but justified Varna system
 A) Kamarajar **B) Gandhiji**
 C) Ambedkar D) Periyar
50. The Union parliament and state Legislature have the powers to make laws in respect of
 A) State List B) Union List
C) Concurrent List D) None
51. Amarkantak a plateau is in the state of
 A) Gujarat **B) Madhya Pradesh**
 C) Maharashtra D) Rajasthan
52. What is the important function of Parliament?
 A) Governing
B) Law making
 C) Collecting taxes
 D) Criticising Government
53. Which soil swell when wet and develops cracks when dry?
 A) Alluvial Soil B) Red soil
C) Black Soil D) Laterite Soil

54. India's first underwater metro tunnel will come up in which of the following Indian city?
A) Allahabad **B) Kolkata**
C) Pune D) None
55. In Tamil Nadu the atomic power project is located at
A)Mettur **B)Kalpakam**
C)Narimanam D)Kayathar
56. The GST council announced a sharp cut in GST rates on the merchant services at _____% from 18%
A) 3 B) 4 **C) 5** D) 6
57. The Narmada river rises near
A)Amarkantak B)Nagpur
C)Abu D)Betul
58. Which of the following day has the theme 'Cultural Heritage and Sustainable Tourism' in the year 2017?
A) World Environment Day
B) World Earth Day
C) World Heritage Day
D) World Meteorological Day
59. Bimbisara belongs to which dynasty?
A) Haryanka Dynasty
B) Shisunaga Dynasty
C) Nanda Dynasty
D) Mourya Dynasty
60. Asia's largest optical telescope is situated in
(A) Kavalur in Tamilnadu
(B) Hanle in Ladakh
(C) Devasthal near Nital
(D) Indore in Madhya Pradesh
- A)A material with many free electrons
B)A material doped to have some free electrons
C)A material with few free electrons
D)No description fits
63. What are the two types of bipolar junction transistors?
A)npn & pnp B)pnn & nnp
C)ppn & nnp D)pts & stp
64. What is the order of doping, from heavily to lightly doped, for region?
A)Base, collector, emitter
B)Emitter, Collector, base
C)Emitter, base, collector
D)Collector, emitter, base
65. What is the Q-point for a affixed bias transistor with $I_B=75 \mu A$, $\beta_{DC} =100$, $V_{CC}=20V$ and $R_C=1.5K\Omega$?
A) $V_C=0V$ B) $V_C=20V$
C) $V_C=8.75V$ D) $V_C=11.25V$
66. What is the most common bias circuit?
A)Base B)Collector
C)Emitter **D)Voltage divider**
67. A step down choppers can be used in
A)Electric traction B)Electric Vehicles
C)Machine Tools **D)All of these**
68. The control method used for PWM dc-dc converter is
A)Voltage mode control
B)Current mode control
C)Hysteric control
D)All of these
69. Choppers is a
A)AC-DC converters
B)AC-AC converters
C)DC-AC converters
D)DC-DC converters

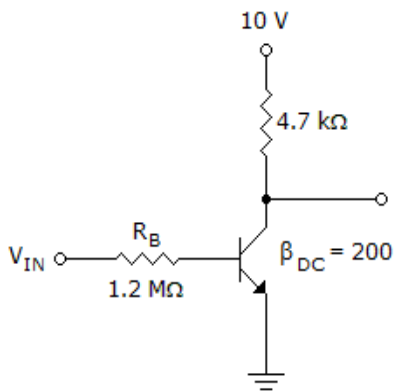
PART –B

61. Under normal conditions a diode conducts current when it is
A)Reverse – biased **B)Forward biased**
C)Avalanched D)Saturated
62. Which statement best describes an insulator?

70. In a double delta transformation, a double delta refers to the case where there are two delta transformations in
 A)Parallel
B)Series
 C)Both Series & Parallel
 D)Neither Series nor parallel
71. While connecting three phase transformer in Star –Star connection, the terminals of Secondaries are wrongly joined. Then the mutual phase angle and magnitude of line to line voltage of Secondaries will
 A)Equal to 120 degree and equal as before
B)Not equal to 120 degree and different
 C)Equal to 120 degree and different
 D)None of these
72. Small iron core transformers used in certain frequency range is also called audio frequency transformer. The audio frequency range is
 A)20 to 2000 HZ **B) 20 to 20000HZ**
 C)2 to 2000HZ D)200 to 20000HZ
73. The constant current transformers are mainly used for
A)Supplying series connected street light
 B)Personal computers
 C)Arc welding
 D)Electric toys
74. In an auto transformer if the power transferred inductively is equal to the power conducted through, then transformation ratio is given by
 A)1 **B)0.5**
 C)2 D)0
75. In a step down transformer, if the transformation ratio increases then the saving of copper
A)increases B)Decreases
 C)Remains same D)None of these
76. For the same excitation voltage and winding currents, the autotransformer gives
 A)Less output than two winding transformer
 B)Equal to the output of two winding transformer
 C)Half of the output of two winding transformer
D)More than the output of the two winding transformer
77. In capacitor start capacitor run induction motor, the capacitor remains in circuit
 A)Only at start
 B)Only during running condition
C)At start as well as during running condition
 D)None of these
78. Single phase induction motors are
 A)Self starting **B)Not self starting**
 C)None of these D)Both a & b
79. Kramer system for controlling the speed of 3 phase induction motor is mostly used for motors of
A)Above 4000 kW B)Below 4000kW
 C)Below 3000kW D)None of these
80. Which operations are performed by the bit manipulating instructions of Boolean processor?
 A)Complement bit B)Set bit
 C)Clear bit **D)All of the above**
81. Which register usually store the output generated by ALU in several arithmetic and logical operations
A)Accumulator
 B)Special Function Register
 C)Timer Register
 D)Stack Pointer
82. Which characteristics of accumulators are of greater significance in terms of its functionality
 A)Ability to store one of the operands before the execution of an instruction
 B)Ability to store the result after the execution of an instruction
C)Both a & b
 D)None of the above

83. ____ ICs are the most commonly used
 A)Thin films **B)Monolithic**
 C)Hybrid D)None if the above
84. An audio amplifier is an example of ____
 A)Digital IC
B)Linear IC
 C)Both digital and linear IC
 D)None of the above
85. An amplifier having voltage gain of 100 has gain in dB
A)40 dB B)20dB
 C)10dB D)100dB

86. Refer to this figure. If $V_{CE}=0.2\text{ V}$, $I_{C(sat)}$ is:



- A)0.05mA **B)2.085mA**
 C)1.065mA D)7.4mA
87. A transistor as amplifier requires
 A)DC supply B)AC supply
C)Both D)None of the above
88. BJT transistor in active region has
A)Larger output B)Smaller output
 C)Same output D)Attenuated output
89. What is default value of stack once after the system undergoes the reset condition?
A)07H B)08H
 C)09H D)00H
90. Which instructions find its utility in loading the data pointer with 16 bits immediate data?
A)MOV B)INC
 C)DEC D)ADDC

91. Phase voltages of a star connected alternator are $E_R = 240\angle 0^\circ\text{ V}$, $E_Y = 240\angle -120^\circ\text{ V}$ and $E_B = 240\angle +120^\circ\text{ V}$. What is the phase sequence of the system?
A) RYB B) RBY
 C) YBR D) BYR
92. In a series resonant circuit impedance is
A)Minimum B)Maximum
 C)Zero D)None
93. Three identical resistors are connected in star across a 3 phase 550 V supply dissipating a total power of 300 W the line current is _____ A.
A)3.149 B)0.5
 C)1 D)2.56
94. A network contains linear resistors and ideal voltage source s. If values of all the resistors are doubled, then voltage across each resistor is
 A) halved.
 B)Doubled
 C)Increased by two times
D)remain same
95. Dependent source of current and voltage are those which have
 A) Unidirectional characteristic.
B) output dependent on input.
 C) independent of any other network variable.
 D) all of the above.
96. i) In star connection line current is equal to phase current.
 ii) In delta connection line voltage is equal to phase voltage. For a given phase connected to the particular line which of the statement is true?
 A)Only 1 B)only 2
C)both 1 & 2 C)None
97. The high leakage impedance transforms are suitable for the application of
A)Arc welding
 B)Personal computer

- C) Street lights
D) Electric lamp
98. The starting torque and power factor of shaded pole induction motor?
A) High, low B) Low, high
C) **Low, low** D) High, high
99. In cascade control method, the set cannot be operated if?
A) $P_A > P_s$ B) $P_A < P_s$
C) **$P_A = P_s$** D) None of these
100. Which transistor bias circuit arrangement provides good stability using negative feedback from collector to base?
A) Base bias
B) **Collector – feedback bias**
C) Voltage divider bias
D) Emitter bias
101. In pole amplitude modulation method for controlling number of poles, practically, the wave used for modulation is?
A) **Square wave** B) Triangular wave
C) Saw tooth wave D) Sinusoidal wave
102. In India, ____ modulation is used for radio transmission
A) Frequency B) **Amplitude**
C) Phase D) None of the above
103. In an AM wave, the majority of the power is in
A) Lower Sideband
B) Upper sideband
C) **Carrier**
D) None of the above
104. In radio transmission, the medium of transmission is ____
A) **Space** B) Antenna
C) Cable D) None of the above
105. The major advantage of FM over AM is
A) **Reception is less noisy**
B) Higher carrier frequency
C) Smaller bandwidth
D) Small frequency deviation
106. If $A_{min}=40$ and $A_{max}=60$, what is the percentage of modulation?
A) **20%** B) 40%
C) 50% D) 10%
107. A 100V carrier is made to vary between 160V and 40V by the signal. What is the modulation factor?
A) 1.3 B) **6**
C) 5 D) None
108. The modulation techniques used to convert analog signal into digital signal are
A) Pulse code modulation
B) Delta modulation
C) Adaptive delta modulation
D) **All of the above**
109. Granular noise occurs when
A) Step size is too small
B) **Step size is too large**
C) There is interference from the adjacent channel
D) Bandwidth is too large
110. Processing gain is the ratio of message bandwidth to signal bandwidth
A) True B) **False**
111. Which is the more suitable when large number of transmitters are used?
A) Synchronous CDMA
B) **Asynchronous CDMA**
C) Synchronous & asynchronous CDMA
D) None
112. CDMA rejects
A) **Narrow band interference**
B) Wide band interference
C) Narrow & wide band interference
D) None

113. The modulation technique used for mobile communication systems during world war II
- A)Amplitude modulation
B)Frequency modulation
C)ASK
D)FSK
114. The early FM push-to-talk telephone systems were used in
- A)Simplex mode
B)Half duplex mode
C)Full duplex mode
D)None of the above
115. Garage door opener is a
- A)Transmitter**
B)Receiver
C)Transceiver
D)None of the above
116. The process of transferring a mobile station from one base station to another is
- A)MSC
B)Roamer
C)Hand off
D)Forward channel
117. In call by reference method the function car return.....value
- A) only one **B) more than one**
C) 0 D) null
118. Find the distance in yards to an object if the display of a radar signal measures 44. Microseconds
- A)380 B)328
C)722 D)656
119. Range markers are determined by
- A)CRT B)Magnetron
C)Timer D)Video amplifier
120. The echo box is used for
- A)Testing and tuning of the radar unit by providing artificial targets
A)Testing and tuning of the radar unit by providing artificial targets
B)Testing the wavelength of the incoming echo signal
C)Amplification of the echo signal
D)Detection of the echo pulses
121. What transmission method does not depend on relative frequency or target motion?
- A)Digital communication
B)Frequency communication
C)Pulse modulation
D)CW modulation
122. What is the difference between mnemonic codes and machine codes>
- A)There is no difference
B)Machine codes are in binary, mnemonic codes are in shorthand English
C)Machine codes are in shorthand English, Mnemonic codes are in binary
D)Machine codes are in shorthand English, mnemonic codes are a high level language
123. A capacitor start, capacitor run single phase induction motor is basically a
- A)ac series motor
B)dc series motor
C)2 phase induction motor
D)3 phase induction motor
124. A microprocessor unit, a memory unit and an input and output unit form a:
- A)CPU B)Compiler
C)Microcomputer D)ALU
125. Which of the following is not a computer bus?
- A)Data bus **B)Timer bus**
C)Control bus D)Address bus
126. A port can be
- A)Strictly for input B)Strictly for output
C)Bidirectional D)All of the above

127. Which of the following is not a basic element within the microprocessor?
A) Microcontroller
 B) Arithmetic logic unit
 C) Temporary register
 D) Accumulator
128. AWT stands for
A) Abstract Window Toolkit
 B) Advanced Windows Toolkit
 C) Add Windows Toolkit
 D) Abstract Windows time
129. BIOS stands for?
 A) Basic information Out System
B) Basic Input Output System
 C) Basic Information Operating System
 D) None
130. A test that attempts to quantify hardware or software performance is called?
 A) Bench mark program **B) Bench mark**
 C) Quality test D) None
131. Special Keys does not include?
 A) Control keys B) Functional keys
C) Alphanumeric keys D) Punctuation keys
132. How many MB are equivalent to 5GB?
A) 5620 B) 5720
 C) 5520 D) 5820
133. Which is default background of Windows XP?
 A) Assent B) Autumn
C) Bliss D) Azul
134. Which of the following is not a a correct variable type in C++ programs?
 A) float **B) Real**
 C) int D) Double
135. The accuracy of data refers to?
A) Correctness B) Consistency
 C) Verifiability D) Velidity
136. # include < stdio.h> is called as a
A) preprocessor directive B) global variables
 C) local variables D) functions
137.function return a single character from a standard input device
A) Getchar () B) Puchar ()
 C) Scanf () D) Printf ()
138. The statement $a = a + 20$ can be otherwise written as
 A) $a = 20+$ **B) $a += 20$**
 C) $a=20$ D) $a= +20$
139. When function is called, it is usually provide with a list of values called.....
 A) arguments B) parameters
C) both (A) & (B) D) none
140. Typical section of C program are
 A) Preprocessor directive
 B) Global variable declaration
 C) Function
D) All the above
141. C was developed by.....
 A) Bjarne stroustrup B) Dennis Ramper
C) Dennis Ritchie D) Bjarne Ritchie
142. A variable can be declared static using the keyword.....
 A) stats **B) static**
 C) statics D) statistics
143. The function named in the call is said to be function
A) called B) return type
 C) calling D) function call
144. A statement which send back any value to the calling function
 A) Void statement
B) RETURN statement
 C) RETURN VALUE statement
 D) Args statement
145. A specified task repeated each time the program calls the.....
 A) Array B) Pointer

- C) Structure **D) Function**
146. The resistance of a straight conductor does not depend on its
A) shape of cross-section
B) length
C) temperature
D) material
147. The unit of resistance is
A) Volt **B) Ohm**
C) Ampere D) Faraday
148. Substances whose specific resistance abruptly decreases at very low temperature are called
A) super conductors B) conductors
C) semi conductors D) insulators
149. The resistance of a conductor with a diameter of 2mm is 20 ohms. If the diameter is doubled with length remaining the same, the new resistance, becomes
A) 10 ohms B) 40 ohms
C) 5 ohms D) 30 ohms
150. Information involved in any operation performed by the CPU needs to be addressed such information is called the
A) Operand B) Operation
C) Address D) none
151. Out of the following motors, which will give the highest starting torque?
A) Universal motor
B) Capacitor start motor
C) Shaded pole motor
D) All have zero starting torque
152. The motor used in household refrigerator is
A) dc series motor
B) dc shunt motor
C) Universal motor
D) Single phase induction motor
153. For measuring an unknown electrical quantity, select the meter with
A) highest range and work done
B) Lowest range and work up
C) Middle range and can be work up or down depending
D) All
154. The power measured in a balanced 3 phase circuit can be done by
A) One wattmeter method
B) Two wattmeter method
C) Three wattmeter method
D) All the above
155. In Boolean algebra $A.A$ is equal to
A) A B) A^2
C) $2A$ D) 1
156. Which is the example of digital device from the given option
A) Sensors B) Record players
C) Microprocessor D) Thermistors
157. Subscript is enclosed in
A) square brackets B) comma
C) double quotes D) brackets
158. What is the radix of Octal number system?
A) 10 B) 2
C) 16 **D) 8**
159. When will the output of an OR gate is LOW?
A) When all input is Low
B) When any input is HIGH
C) When all inputs are HIGH
D) None
160. How many stable state present in Flip Flops
A) 2 B) 3
C) 1 D) 4