

BEL PE Electronics Papers 2014

📁 BEL Questions, Question Papers

BEL PE Electronics Papers 2014 is given below. BEL PE ETC questions has three sections that is Technical sections, Aptitude section and Reasoning sections. Total number of questions is 150. Technical questions of BEL ETC Papers are asked from the GATE Electronic Syllabus. Here some previous year questions along with its answer is given for practice.

1. The gray code equivalent of binary 1100 is

- a. 1011
- b. 1101
- c. 1010
- d. 1100

Answer : c

2. A Multiplexer has

- a. Multiple inputs and single output
- b. Single input and Multiple outputs
- c. Multiple inputs and Multiple outputs
- d. Multiple inputs for Storage of Data

Answer : c

3. A binary half adder

- a. Adds two binary digits and produces their sum and carry
- b. Adds half the sum to the carry
- c. Adds two binary digits and carry from previous addition
- d. Adds two binary digits at half the speed

Answer : a

4. An index register in a computer is for

- a. Arithmetic and logic functions
- b. Storage of results
- c. Modifying the address-ans
- d. Counting the no of programmes

Answer : c

5. An example of volatile memory is

- a. RAM-ans
- b. ROM
- c. EPROM
- d. Magnetic tape

6. Barrier voltage in a P-N junction is caused by

- a. Thermally generated electrons and holes
- b. Diffusion of majority carriers across the junction
- c. Migration of minority carriers across the junction
- d. Flow of drift current

Answer : b

7. The temperature coefficient of an intrinsic semiconductor is

- a. Positive
- b. Negative
- c. Zero
- d. Like metals

Answer : b

8. A silicon transistor has a leakage current $I_{CBO} = 1$ ma. If the temp. rises by 50 degree C the leakage current will be

- a. 30 ma
- b. 32ma
- c. 50ma
- d. no change

Answer : b

9. The noise figure of an ideal amplifier in decibel is

- a. 0.5
- b. 0
- c. 1
- d. 10

Answer : b

10. The rise time of an amplifier is 200 nsec. Its bandwidth is

- a. 70MHz
- b. 140MHz
- c. 100MHz
- d. 1.75Mhz

Answer : d

11. MOSFET operates in

- a. Depletion mode only
- b. Enhancement mode only
- c. Depletion and enhancement mode
- d. None of these of the above

Answer : c

12. A device which behaves like SCRs is

- a. UJT
- b. Triac
- c. MOSFET
- d. SRD

Answer : b

13. A plate modulated class C RF amplifier produces 100 KW of radiated power at 100 % modulation. The modulating audio amplifier supplies approximately

- a. 25KW
- b. 33KW
- c. 50KW
- d. 66KW

Answer : b

14. A 100 MHz FM carrier, modulated by a 5 KHz sine wave deviates by 50 KHz If the frequency of the modulating sine wave is doubled, the deviation will

- a. Double
- b. Half
- c. Quadruple
- d. Have no change

Answer : d

15. Noise generated by a resistor is dependent on

- a. Its Value
- b. Its temperature
- c. Both value and temp
- d. None of these

Answer : c

16. A 32 channel 8 bit PCM system samples at 8 KHz rate. The overall bit rate in kilobits per second will be

- a. 2048
- b. 2000
- c. 1920
- d. 64

Answer : a

17. Stub matching eliminates standing wave on

- a. Load side of the stub
- b. Source side of the stub
- c. Both sides
- d. On the stub

Answer : c

18. A half wave folded dipole has a radiation resistance of

- a. 72 W
- b. 50W
- c. 144W
- d. 288W

Answer : d

19. Top loading is used in antennas for

- a. Decrease in impedance
- b. Increase in bandwidth
- c. Increase in effective height
- d. Decrease the height

Answer : c

20. The term critical frequency in Ionospheric propagation is

- a. Lowest frequency reflected by Ionosphere
- b. Highest frequency reflected by the Ionosphere at vertical incidence

- c. Lowest frequency reflected by the Ionosphere at vertical incidence
- d. Lowest communication frequency possible

Answer : b

21. The cathode ray oscilloscope can be used to measure

- a. Frequency
- b. Time interval
- c. Voltage
- d. All the above

Answer : d

22. A wein bridge is used for measurement of

- a. Resistance
- b. Capacitance
- c. Inductance
- d. Audio frequency

Answer : d

23. The frame rate per second used in India TV is

- a. 60
- b. 50
- c. 25
- d. 30

Answer : c

24. VHF signals are propagated

- a. Via the ionosphere
- b. Along the ground
- c. Through the troposphere
- d. By reflection in ionosphere

Answer : b

25. The impedance of a 3 element yagi antenna is around

- a. 75W
- b. 300W
- c. 50W
- d. 100W

Answer : b

26. A PIN diode is microwave

- a. Oscillator
- b. Mixer
- c. Detector
- d. Switch

Answer : d

27. A transmission line of VSWR 2 has a reflection coefficient

- a. 0.25
- b. 0.5
- c. 75
- d. 0

Answer : c

28. Microwave repeaters are typically

- a. 25
- b. 50
- c. 75
- d. 100 Kms apart

Answer : b

29. To overcome fading in a ship-to-ship communication system we can efficiently use

- a. Broadband Antenna
- b. Directional Antenna
- c. Space Diversity
- d. Frequency Diversity

Answer : d

30. Frequency in the UHF range is propagate by waves of

- a. Ground
- b. sky
- c. Space-ans
- d. Surface

Answer : c

31. A duplexer is used to

- a. Receive two signals in one antenna
- b. Prevent interference between two antenna
- c. Mix two signals to the same antenna
- d. Allow one antenna for both transmission and reception-ans

Answer : d

32. Strapping is used in a magnetron to

- a. Prevent mode jumping-ans
- b. Reduce frequency drift
- c. Ensure proper bunching
- d. Dissipate heat

Answer : a

33. A rectangular waveguide behaves like a filter of

- a. Band pass
- b. High pass-ans
- c. Low pass
- d. Band stop

Answer : b

34. The signal propagation time in milliseconds for a geosynchronous satellite is

- a. 540
- b. 270
- c. 135-ans
- d. 100

Answer : c

35. The silicon solar cell is a

- a. Photo conductive
- b. Photo emissive
- c. Photo voltaic-ans
- d. Photo resistive

Answer : c

36. For the national TV and radio network, INSAT-IB uses

- a. 400MHz
- b. 2.5GHz
- c. 2.5 and 5GHz
- d. 4 and 6 GHz-ans

Answer : d

37. A typical fibre-optic detector is

- a. Step recovery diode
- b. Light emitting diode
- c. Avalanche photo diode-ans
- d. Field effect transistor

38. A modem is a device used for

- a. Digitizing voice data
- b. Transmission of data on lines
- c. Modulating and demodulating signals sent on a line-ans
- d. Suppressing noise interference

Answer : c

39. The most effective anti-jamming technique is

- a. Frequency hopping-ans
- b. Spread Spectrum
- c. Frequency synthesis
- d. Burst transmission

Answer : a

40. Mono-mode is a term used in

- a. Fibre-optics-ans
- b. Radar
- c. Satellite communication
- d. Magnetics

Answer : a

41. Monopulse technique is used in

- a. Radar-ans
- b. Radio relay
- c. Data communication

- d. Fibre-optics

Answer : a

42. HDLC is a term for

- a. Data communication protocol-ans
- b. Synchronizing pulses
- c. Gain control in receivers
- d. Error checking

Answer : a

43. A gateway

- a. Is a place where radars are connected
- b. Permits dissimilar networks to communicate-ans
- c. Bifurcates the RF path of a transmitter
- d. Is a feeder cable

Answer : b

44. Ethernet is a name of

- a. Medium of computer communication
- b. Network for computer communication-ans
- c. Procedures for computer communication network
- d. Software for computer communication

Answer : b

45. If several stations in a network want to use a single channel without interfering with one another,the technique used is called

- a. Carrier sense
- b. Phantom-freeze
- c. Packet switching
- d. Multiplexing-ans

Answer : d

46. In a monolithic IC, resistors are formed from

- a. Ceramic materials
- b. Copper
- c. P-type semiconductor-ans
- d. Aluminium deposition

Answer : c

47. ICs made by sputtering of materials on a ceramic substrate are called

- a. Monolithic
- b. Hybrid
- c. Thick film
- d. Thin film-ans

Answer : d

48. Two coils (inductors) connected in series have a combined inductance of 15mH. When terminals of one of the coils are reversed and connected to the other, the combined inductance is measured to be 9mH. What is the value of mutual inductance

- a. 1.5mH
- b.3mH
- c.6mH
- d.12mH

49. If a parallel LC circuit is excited at frequency less than its resonant frequency, the nature of its effective impedance is

- a. Resistive
- b. Inductive
- c. Capacitive
- d. None of these

Answer : b

50. The wave length of 1 Giga hertz frequency signal is

- a. 10cm
- b. 30cm
- c. 3cm
- d. 1cm

Answer : b

51. Which of the following microwave tubes can be considered as broad band devices

- a. Magnetrons
- b. Klystrons
- c. Reflex klystrons
- d. Traveling wave tubes[TWT]

Answer : d

52. Which family of the following integrated circuits has the highest speed

- a. DTL
- b. ECL
- c. TTL
- d. CMOS

Answer : b

53. The most important feature of CMOS family of ICs is

- a. High speed
- b. Small size
- c. Low power consumption
- d. Low input impedance

Answer : c

54. What is the resolution of 8 bit A/D converter if its full scale voltage is 10v

- a. 0.02v
- b. 0.01
- c. 0.039v
- d. 0.078v

Answer : c

55. What value of resistance is to be used in LSB of 4 bit weighted ladder D/A converter if MSB has 10 kW resistor

- a. 160k
- b. 80k
- c. 240k
- d. 100k

Answer : b

56. The pulse width of a radar transmitter is 0.6m sec. and the pulse repetition rate is 700 Hz. The average power measured is 420 watts. What is the peak power

- a. 100KW
- b. 420KW
- c. 1MW
- d. None of these

Answer : c

57. The device used for isolating the transmitter and receiver in a radar system is called

- a. Diplexer
- b. Duplexer
- c. Directional coupler
- d. None of these

Answer : b

58. “Baud” is

- a. Total No. of bits/sec in each character
- b. Reciprocal of shortest signal element in a character
- c. Duration of a character in data transmission
- d. None of these

Answer : b

59. The advantage of Totem pole output stage in TTL ICs is

- a. Low output impedance
- b. Can sink more current
- c. Oscillations avoided
- d. None of these

Answer : a

60. The capacitance value of a varactor is controlled by

- a. A reverse voltage applied to it
- b. A series resistance
- c. Varying its supply voltage
- d. Current through the device

Answers : a

61. Electron volt is equivalent to

- a. 3.8×10^{-20} erg
- b. 1.602×10^{-12} erg
- c. 1.602×10^{-18} erg
- d. 1.602×10^{-16} erg

Answers : b

62. The kinetic energy of photo electrons emitted by a photo sensitive surface depends on

- a. Intensity of the incident radiation

- b. Wavelength of the incident radiation
- c. Angle of incident of radiation
- d. Surface conditions of the surface

Answers : b

63. Flux is expressed in radio-metric system in

- a. Lumens
- b. Photons
- c. Watts
- d. Candles

Answers : a

64. In a three-phase bridge rectifier circuit, the ripple frequency is

- a. Same as line frequency
- b. Twice the line frequency
- c. Thrice the line frequency
- d. Six times the line frequency

Answers : b

65. Energy stored in a capacitor as a function of voltage is given by

- a. CV^2
- b. $1V^2/2C$
- c. $\frac{1}{2} CV^2$
- d. $1V/2C$

Answers : c

66. The operational amplifier used in analog computers have usually open loop flat gain approximately upto

- a. 1MHz
- b. 100MHz
- c. 10MHz
- d. 0.1MHz

Answers : d

67. An oscillator of 350 MHz is fed with a pulse of rise time 2 n sec. The rise time of the displayed waveform is approximately

- a. 1 n sec
- b. 2.2 n sec

- c. 2.0 n sec
- d. 1.7 n sec

Answers : c

68. A radar transmits a peak power of 100 KW with pulse width of 1 m sec and a pulse repetition rate of 100 KHz. The average output power of the radar is

- a. 100KW
- b. 10KW
- c. 1000KW
- d. 50KW

Answers : b

69. The incremental inductance in a coil is due to

- a. Saturation
- b. Superimposed DC
- c. Mutual inductance
- d. Change of frequency

Answers : d

70. Microwave tube based on velocity modulation principle is

- a. Klystron
- b. Magnetron
- c. Light house tube
- d. Traveling wave tube

Answers : a

71. Noise output from the receiver decreases uniformly with noise side band frequency for

- a. Frequency modulation
- b. Amplitude modulation
- c. Pulse amplitude modulation
- d. None of these

Answers : a

72. In amplitude modulation the maximum permissible modulation index is

- a. Unity
- b. 100
- c. infinity

- d. None of these

Answers : a

73. In frequency modulation the maximum permissible modulation index is

- a. Unity
- b. 50
- c. 1000
- d. no limit

Answers : b

74. In FM transmission and reception, the pre-emphasis and de-emphasis are used to improve the

- a. Signal to noise ratio
- b. Frequency response of the receiver
- c. Frequency response of the transmitter
- d. The sensitivity of the transmitter

Answers : a

75. De-emphasis network uses the combination of

- a. R-L
- b. R-C
- c. R-L-C
- d. Transformer

Answers : b

76. The usage of micro sec for defining emphasis is a standard practice but this micro sec definition means

- a. 3 dB point of the network means
- b. mid point of the network response
- c. roll off the network response
- d. the stop band ripple of the network response

Answers : a

77. Delayed AGC is applied

- a. For all signal strength
- b. For signal strength exceeding a specified limit
- c. For low signal strength
- d. For FM receiver

Answers : b

78. Selectivity means

- a. Bandwidth
- b. Gain
- c. Modulation index
- d. None of these

Answers : a

79. Narrow bandwidth broadcast reduces

- a. The quality and noise
- b. Quality alone
- c. Noise alone
- d. Quality and intelligibility

Answers : a

80. Squelch means keeping the receiver

- a. ON in the absence of carrier
- b. OFF in the absence of carrier
- c. To remove AGC
- d. Increase the AGC

Answers : b

81. Let Z be the series impedance and Y be the shunt admittance of the transmission line, then the characteristic impedance

- a. $\sqrt{ZY}$ b. $\sqrt{Y/Z}$
- c. $\sqrt{Z/Y}$ d.
- All the above

Answers : c

82. Noise figure of an amplifier is defined as

- a. Input SNR output SNR
- b. Input SNR / output SNR
- c. Output SNR / input SNR
- d. Input SNR / gain

Answers : b

83. A broadcast radio transmitter radiates 10 KW power when modulation is 60%. Its carrier power will be

- a. 8.47KW
- b. 8.92KW
- c. 8.31KW
- d. 10.00KW

Answers : a

84. In AM transmission antenna current is 8 Ampere at zero modulation indexes but increased to 8.93 Ampere when modulated on single sine wave. Then the % of modulation is approximately

- a. 70.1%
- b. 80.1%
- c. 65.1%
- d. 10.0%

Answers : a

85. In AM transmission antenna current is 8 Ampere at zero modulation index. At 80% modulation index the antenna current will be

- a. 10.00A
- b. 8.72A
- c. 9.19A
- d. 9.79A

Answers : c

86. If two sine waves are amplitude modulated with modulation index m_1 and m_2 , the effective modulation index is

- a. $\sqrt{m_1^2 + m_2^2}$
- b. $\sqrt{m_1 m_2}$
- c. $\sqrt{m_1^2 + m_2^2}$
- d. $\sqrt{m_2^2 / m_1^2}$

Answers : c

87. If I_t is transmitted current and I_c is transmitter current at zero modulation index and the transmitted current at modulation index of m will

- a. $I_t = I_c \sqrt{1+m}$
- b. $I_t = I_c \sqrt{1+m^2}$
- c. $I_t = I_c \sqrt{1+m/2^2}$
- d. $I_t = I_c \sqrt{1+m^2}$

Answers : c

88. If R_r is the radiation resistance and R_d is the lumped resistance, then the antenna efficiency is given as

–

- a. $(R_r - R_d) / (R_r + R_d)$
- b. $(R_r + R_d) / (R_r - R_d)$
- c. $R_r / (R_r + R_d)$
- d. $R_d / (R_r + R_d)$

Answers : c

89. In end fire array, the current

- a. Magnitude and phase in each element is the same
- b. Magnitude is the same but phase is different in each element
- c. Magnitude is different but no phase difference in each element
- d. Magnitude and phase are different in each element

Answers : b

90. In a broad side array, the current

- a. Magnitude and phase in each element is the same
- b. Magnitude is the same but phase is different
- c. Magnitude is different but no phase difference in each element
- d. Magnitude and phase are different in each element

Answers : a

91. Beam width of the 2 metre paraboloid reflector at 6 GHz is

- a. 4.5°
- b. 9.25°
- c. 3.5°
- d. 7.75°

Answers : c

92. The cut off wave length for TE m, n mode is in a wave guide of dimension $a \times b$ is

- a. $2\sqrt{(m/a)^2 + (n/b)^2}$
- b. $2\sqrt{[m/a]^2 + [n/b]^2}$
- c. $\sqrt{(m/a)^2 + (n/b)^2} / 2$
- d. $\sqrt{[m/a]^2 + [n/b]^2}$

Answers : a

93. For the standard rectangular waveguide dimension of 4×2 cm the cut off wavelength for TM₁₁ mode is

approximately

- a. 1.788cm
- b. 3.576cm
- c. 1.682cm
- d. 2.546cm

Answers : b

94. In IMPATT diode, the voltage and current are

- a. In phase
- b. Out off phase by 90o
- c. Out off phase by 180o
- d. None of these of the above

Answers : c

95. Which of the following statement is true

- a. Tunnel diode & IMPATT diode are negative resistance devices
- b. Tunnel diode is positive resistance device and the IMPATT diode is negative resistance device
- c. Tunnel diode is negative resistance device and the IMPATT diode is positive resistance device
- d. None of these of the above

Answers : a

96. In a SSB modulation system with 100% modulation index the power saving will be

- a. 5/6 of carrier power
- b. 2/8 of carrier power
- c. 5/12 of the carrier power
- d. $\frac{1}{2}$ of the carrier power

Answers : a

97. In SSB modulation the modulation index is increased from 0.5 to 1.0, then the power will be increased by

- a. 2 times
- b. 4 times
- c. 16 times
- d. 32 times

Answers : b

98. 900 rpm is equal to

- a. 94.2 rad/sec

- b. 47.1 rad/sec
- c. 188.4 rad/sec
- d. 16.72 rad/sec

Answers : b

99. Darlington pair is used to

- a. Increase the voltage gain
- b. Increase the current gain
- c. Decrease voltage gain
- d. Decrease current gain

Answers : b

100. The transfer function of the system shown is

- a. $G(s) / \{1 + H(s)\}$
- b. $G(s) H(s) / \{1 + G(s) H(s)\}$
- c. $G(s) / \{1 + G(s) H(s)\}$
- d. $G(s) / G(s) H(s)$ -ans

Answers : c

BEL ETC Technical Questions 2014

1. What is the resolution of a digital-to-analog converter (DAC)?
 a. It is the comparison between the actual output of the converter and its expected output.
 b. It is the deviation between the ideal straight-line output and the actual output of the converter.
 c. It is the smallest analog output change that can occur as a result of an increment in the digital input.
 d. It is its ability to resolve between forward and reverse steps when sequenced over its entire range.

Answer : C

2. Mod-6 and mod-12 counters are most commonly used in:
 a. frequency counters
 b. multiplexed displays
 c. digital clocks
 d. power consumption meters

Answer : C

3. A series of gradually decreasing sine wave oscillations is called:
 a. Ringing
 b. slew
 c. overshooting
 d. undershooting

Answer : A

4. Pinch-off voltage V_P for an FET is the drain voltage at which
 a. significant drain current starts flowing
 b. drain current becomes zero
 c. all free charges get removed from the channel
 d. avalanche break down takes place

Answer : C

5. Compared to bipolar transistor, a JFET has
 a. lower input impedance
 b. higher voltage gain
 c. higher input

impedance and high voltage gain. higher input impedance and low voltage gain

Answer : D

6. A common instrument used in troubleshooting a digital circuit is a(n) _____.a. logic probeb. oscilloscopec. pulserd. all of the above

Answer : D

7. How many valence shell electrons are there in semiconductor atoms?a. 16b. 8c. 4d. 2

Answer : C

8. Kirchhoff's current law for parallel circuits states that the:a. sum of all branch voltages equals zero b. total circuit resistance is less than the smallest branch resistor c. sum of currents into a junction is equal to the difference of all the branch currents d. sum of the total currents flowing out of a junction equals the sum of the total currents flowing into that junction

Answer : D

9. A parallel circuit is also used as a divider for:a. Conductance b. voltage c. power d. current

Answer : D

10. What is a characteristic of a secondary cell?a. rechargeability b. not rechargeable c. a dry cell d. non-liquid

Answer : A

11. Telex is a

- Telephone Service between various subscribers
- Tele printer Service between various subscribers
- Television Service between various subscribers
- Telegraph Service between various subscribers

Answer : B

12. Data can be changed from special code to temporal code by using

- a. Shift registers
- b. counters
- c. Combinational circuits
- d. A/D converters.

Answer : A

13. In digital ICs, Schottky transistors are preferred over normal transistors because of their

- a. Lower Propagation delay.

- b. Higher Propagation delay.
- c. Lower Power dissipation.
- d. Higher Power dissipation.

Answer : A

14. Which TTL logic gate is used for wired ANDing

- a. Open collector output
- b. Totem Pole
- c. Tri state output
- d. ECL gates

Answer : A

15. The number of point to point links required in a fully connected network for 50 entities is

- a. 1250
- b. 1225
- c. 2500
- d. 50

Answer : C

16. Telephone companies normally provide a voltage of _____to power telephones.

- a. +24 volts DC
- b. -24 volts DC
- c. +48 volts DC
- d. -48 volts DC.

Answer : D

17. The situation when both transmitter and receiver have to work in tandem is referred to as

a. parallelb. serialc. synchronoustd. asynchronous

Answer : C

18. The _____is a circuit-switched network, while the _____is a packet-switched network.

- a. Telephone, ATM
- b. SONET and FDDI
- c. Satellite, Telephone
- d. FDDI and SONET

Answer : A

19. ISDN handles data pertaining to

- a. All digital services
- b. Speech and Video
- c. Computer data only
- d. Speech only

Answer : A

20. Typical human voice is centered around _____ Hz.

a. 200-400b. 280-3000c. 400-600d. 1400-1800

Answer : B

BEL PE General Aptitude Questions 2014

1.The smallest value of m, for which $2m+1$ is not a prime number, is:a. 3b. 4c. 5d. 6

Answer : 4

2.The sum of the first 47 terms of the series $\frac{1}{4}+\frac{1}{5}-\frac{1}{6}-\frac{1}{4}+\frac{1}{5}+\frac{1}{6}+\frac{1}{4}+\frac{1}{5}-\frac{1}{6}...$ is:a. 0b. $-(\frac{1}{6})$ c. $\frac{1}{6}$ d. 1

Answer : B

3. $(\sqrt{5}+\sqrt{3})/(\sqrt{5}-\sqrt{3})$ is equal to :a. 1b. 2c. $4-\sqrt{15}$ d. $4+\sqrt{15}$

Answer : C

4. The height of an equilateral triangle is 10 cm. Its area is :

- a. $(\frac{100}{3})\text{cm}^2$
- b. 30 cm^2
- c. 100 cm^2
- d. $(\frac{100}{\sqrt{3}})\text{cm}^2$

Answer : D

5. 1, 6, 24, 60, 120, 210

- a. 336
- b. 366
- c. 330
- d. 660

Answer :a

6. A cylindrical container has a radius of eight inches with a height of three inches. Compute how many inches should be added to either the radius or height to give the same increase in volume?

- a. 13
- b. $16/3$
- c. $11/3$
- d. $17/3$

Answer : B. $16/3$ inches

7. 39% of a number exceeds 19% of the same by 48. What is the number ?

- a. 180
- b. 260
- c. 240
- d. 280

Answer : C

8. How big will an angle of one and a half degree look through a glass that magnifies things three times?

- a. $1\frac{1}{2}$
- b. $2\frac{1}{2}$
- c. $3\frac{1}{2}$
- d. $4\frac{1}{2}$

Answer : a

9. 12 men take 36 days to do a work while 12 women complete $\frac{3}{4}$ th of the same work in 36 days. In how many days 10 men and 8 women together will complete the same work?

- a. 6
- b. 27
- c. 12
- d. Data inadequate

Answer : B

10. A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z. Which of the following statements is true?

- a. P and A are cousins
- b. P is the maternal uncle of A
- c. Q is the maternal grandfather of A
- d. C and P are sisters

Answer : B

Explanation: C and Q are sisters and A is the son of C. Hence, C is the mother of A or Z is the mother Q. Hence, Z is the maternal grandmother of A. P is the son of Z. Hence, P is the maternal uncle of

11. The total number of digits used in numbering the pages of a book having 366 pages is

- a. 732
- b. 990
- c. 1098
- d. 1305

Answer : B

Explanation:

Total number of digits = (No. of digits in 1-digit page nos. + No. of digits in 2-digit page nos. + No. of digits in 3-digit page nos.)

$$= (1 \times 9 + 2 \times 90 + 3 \times 267) = (9 + 180 + 801) = 990$$

12. Nitin's age was equal to square of some number last year and the following year it would be cube of a number. If again Nitin's age has to be equal to the cube of some number, then for how long he will have to wait?

- a. 10
- b. 38
- c. 39
- d. 64

Answer : B

Explanation: Clearly, we have to first find two numbers whose difference is 2 and of which the smaller one is a perfect square and the bigger one a perfect cube.

Such numbers are 25 and 27.

Thus, Nitin is now 26 years old. Since the next perfect cube after 27 is 64,

so required time period = $(64 - 26)$ years = 38 years.

13. QAR, RAS, SAT, TAU, _____ a. UAV b. UAT c. TAS d. TAT

Answer : A

Explanation: In this series, the third letter is repeated as the first letter of the next segment. The middle letter, A, remains static. The third letters are in alphabetical order, beginning with R.

14. If $9+3-5=32$, $11+6-4=70$, then $18+2-4=?$

- a. 54
- b. 36
- c. 40
- d.56

Answer : C

15."School" is related to "Education" in the same way as "court" is related to

- a. Lawyer
- b. Criminal
- c. Justice
- d.Jugde

Answer : C