DIPLOMA - COMMON ENTRANCE TEST-2019

CS	COURSE	DAY : SUNDAY DATE : 21-07-2019
	COMPUTER SCIENCE	TIME : 10.00 a.m. to 1.00 p.m.

MAXIMUM MARKS	TOTAL DURATION	MAXIMUM TIME FOR ANSWERING
180	200 MINUTES	180 MINUTES

MENTION YOUR DIPLOMA CET NUMBER	QUESTION BOOKLET DETAILS	
	VERSION CODE	SERIAL NUMBER
	A	216857

Dos :

1. Candidate must verify that the DCET number and Name printed on the OMR Answer Sheet is tallying with the DCET number and Name printed on the Admission Ticket. Discrepancy if any, report to invigilator.
2. This question booklet is issued to you by the invigilator after the **2nd bell i.e., after 9.50 am**.
3. The Version Code of this Question Booklet should be entered on the OMR Answer Sheet and the respective circle should also be shaded completely.
4. The Version Code and Serial Number of this question booklet should be entered on the Nominal Roll without any mistakes.
5. Compulsorily sign at the bottom portion of the OMR answer sheet in the space provided.

DONTs :

1. **THE TIMING AND MARKS PRINTED ON THE OMR ANSWER SHEET SHOULD NOT BE DAMAGED/ MUTILATED/SPOILED.**
2. The **3rd Bell rings at 10.00 am, till then;**
   - Do not remove the seal present on the right hand side of this question booklet.
   - Do not look inside this question booklet.
   - Do not start answering on the OMR answer sheet.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. This question booklet contains **180** (items) questions and each question will have one statement and four answers. (Four different options / responses.)
2. After the **3rd Bell is rung at 10.00 am**, remove the paper seal of this question booklet and check that this booklet does not have any unprinted or torn or missing pages or items etc., if so, get it replaced by a complete test booklet. Read each item and start answering on the OMR answer sheet.
3. During the subsequent **180** minutes :
   - Read each question (item) carefully.
   - Choose one correct answer from out of the four available responses (options / choices) given under each question / item. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **only one response** for each item.
   - Completely **darken / shade** the relevant circle with a blue or **black ink ballpoint pen against the question number on the OMR answer sheet.**

ಸರಿಯಾದ ಕ್ರಮ CORRECT METHOD	ತಪ್ಪು ಕ್ರಮಗಳು WRONG METHODS
(A) ● (C) (D)	(A) (B) (C) (D) (A) (B) (C) ✓ (A) ● ● (D)
	(A) (B) (C) (D) (A) ● (C) (D)

4. Use the space provided on each page of the question booklet for Rough Work. Do not use the OMR answer sheet for the same.
5. After the **last bell is rung at 1.00 pm**, stop marking on the OMR answer sheet and affix your **left hand thumb impression** on the OMR answer sheet as per the instructions.
6. Hand over the **OMR answer sheet** to the room invigilator as it is.
7. After separating the top sheet (KEA copy), the invigilator will return the bottom sheet replica (candidate's copy) to you to carry home for self-evaluation.
8. Preserve the replica of the OMR answer sheet for a minimum period of **ONE year**.

CS-A

CONFIDENTIAL

PART – A

APPLIED SCIENCE

1. One of the basic unit in SI is

   (A) Newton (B) Joule

   (C) Kilometer (D) Ampere

2. The pitch of screw is $\frac{1}{2}$ mm. The number of divisions on head scale of screw gauge is 50. The least count of screw gauge is

   (A) 0.1 mm (B) 0.5 mm

   (C) 0.01 mm (D) 0.05 mm

3. Which one of the following is a vector quantity ?

   (A) Speed (B) Density

   (C) Velocity (D) Mass

4. The magnitude of resultant of two forces $\vec{P}$ & $\vec{Q}$ acting perpendicular to each other is

   (A) $\sqrt{P^2 + Q^2}$ (B) $\sqrt{P^2 - Q^2}$

   (C) $P^2 - Q^2$ (D) $P^2 + Q^2$

5. A force of 50 N acts at a point making an angle of 30° with the horizontal. The vertical component is

   (A) 50 N (B) 25 N

   (C) 150 N (D) 1.6 N

Space For Rough Work

6. A couple produces

(A) pure linear motion (B) pure rotational motion

(C) both linear and rotational motion (D) neither linear nor rotational motion

7. The resultant of two like parallel forces acts in the direction of

(A) same as that of two forces (B) opposite to two forces

(C) perpendicular to two forces (D) direction cannot be specified

8. The reciprocal of bulk modulus of elasticity is called

(A) Compressibility (B) Rigidity

(C) Modulus of elasticity (D) Viscosity

9. A steel wire has a cross sectional area of 0.05 m^2. If the maximum stress of steel wire is 1000 N/m^2. The force is

(A) 20×10^3 N (B) 50 N

(C) 200 N (D) 20 N

10. The pressure at a point on surface of a liquid is

(A) minimum (B) maximum

(C) zero (D) infinity

11. The pressure exerted by sea water of density 1025 kg/m^3 on a fish at a depth of 10 m ($g = 10\ m/s^2$) is

(A) 1025 kPa (B) 10.25 kPa

(C) 1.025 kPa (D) 102.5 kPa

Space For Rough Work

12. A drop of rain assumes spherical shape due to

(A) Density (B) Viscosity

(C) Surface tension (D) Humidity

13. The phenomenon of rise or fall of liquid in a capillary tube is

(A) Viscosity (B) Capillarity

(C) Density (D) Elasticity

14. The S.I. unit of coefficient of viscosity is

(A) Ns/m^2 (B) Nm^2/s

(C) m^2s/N (D) Ns/m

15. The expression that represents Boyle's law is

(A) PV = constant (B) PT = constant

(C) VT = constant (D) PVT = constant

16. The volume of gas at 30 °C is 2 litres. To what temperature the gas must be heated for its volume to become 4 litres at constant pressure.

(A) 300 °C (B) 273 °C

(C) 333 °C (D) 606 °C

17. Working of pressure cooker is based on the principle of

(A) Boyle's law (B) Charle's law

(C) Laplace's law (D) Gay-Lussac's law

Space For Rough Work

18. Land and sea breeze is an example of

(A) Conduction (B) Convection

(C) Condensation (D) Radiation

19. The measure of average kinetic energy of all the particles in a gas is

(A) Heat (B) Mechanical energy

(C) Chemical energy (D) Temperature

20. When a wave travels through the medium, the particles of the medium are

(A) displaced in the direction of wave

(B) displaced opposite to the direction of wave

(C) mean position remains same

(D) starts rotating

21. Two waves with very little difference in their frequencies overlap on one another to produce

(A) Stationary waves (B) Progressive waves

(C) Beats (D) Transverse waves

22. The acceleration of the particle executing simple harmonic motion is directly proportional to its

(A) displacement from its mean position

(B) period of motion

(C) frequency of vibration

(D) amplitude of wave

Space For Rough Work

23. In the expression for velocity of sound in air, $V = \sqrt{\frac{\gamma P}{\rho}}$, notation γ is equal to

(A) $C_P + C_V$ (B) $C_P - C_V$

(C) $C_P \times C_V$ (D) $\frac{C_P}{C_V}$

24. Velocity of sound in outer space is

(A) 3×10^8 m/s (B) 330 m/s

(C) zero (D) 360 m/s

25. A string of length 1 m and mass 0.04 kilogram vibrates with fundamental frequency of 100 Hz then the tension in the string is

(A) 4000 N (B) 1600 N

(C) 400 N (D) 1000 N

26. Nodes and antinodes are characteristics of

(A) Stationary waves (B) Longitudinal waves

(C) Transverse waves (D) Beats

27. Natural frequency of a string does not vary with

(A) thickness (B) applied force

(C) tension (D) length

28. The electromagnetic radiation used in Forensic Department to study the finger print is

(A) Ultraviolet Ray (UV Ray) (B) Radio wave

(C) Micro wave (D) X-ray

Space For Rough Work

29. The type of light used to study Holography is

(A) Visible light (B) Laser light

(C) Sodium light (D) Mercury light

30. Which technology is used to develop Sun Screen lotion and cosmetics ?

(A) Geo-technology (B) Nano-technology

(C) Electro-technology (D) Micro-technology

31. The process of separating the information signal from the carrier wave at the receiver is known as

(A) Amplification (B) Modulation

(C) Attenuation (D) Demodulation

32. Optical fibre is used in

(A) Pressure sensors (B) Drilling

(C) Holography (D) Welding

33. The mass of copper deposited on the cathode of a copper voltmeter by a current of 2 amperes in 30 minutes is

(Given ece of copper (Z) = 0.0003 gm / coulomb)

(A) 3.2 gm (B) 4.3 gm

(C) 1.08 gm (D) 2.5 gm

34. The process of coating zinc over iron or steel is known as

(A) Galvanizing (B) Tinning

(C) Alloying (D) Non-Metallic coating

Space For Rough Work

35. SOFC is a type of

(A) Primary cell (B) Secondary cell

(C) Fuel cell (D) Solar cell

36. Magnalium is an alloy made by the combination of aluminium and

(A) Phosphorous (B) Zinc

(C) Tin (D) Magnesium

37. Zinc-carbon battery is an example for

(A) Secondary Battery (B) Fuel cell

(C) Primary Battery (D) Solar cell

38. Which of the following is not a polymer ?

(A) Teflon (B) Nylon

(C) Bakelite (D) Glass

39. Ceramic is which type of material ?

(A) Composite material (B) Alloy

(C) Polymer (D) Bio-material

40. The pH value of distilled water is

(A) 13 (B) 7

(C) 2 (D) 11

Space For Rough Work

PART – B

ENGINEERING MATHEMATICS

41. If $A = \begin{bmatrix} -3 & 4 \\ 2 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 2 \\ -2 & 1 \end{bmatrix}$, then $B^T \cdot A^T$ is

(A) $\begin{bmatrix} 3 & 8 \\ -4 & 0 \end{bmatrix}$

(B) $\begin{bmatrix} -5 & -2 \\ -2 & 4 \end{bmatrix}$

(C) $\begin{bmatrix} 5 & 2 \\ -2 & -4 \end{bmatrix}$

(D) $\begin{bmatrix} 5 & 2 \\ 2 & 4 \end{bmatrix}$

42. The value of the $\begin{vmatrix} \tan\theta & 0 & -1 \\ 1 & 0 & \tan\theta \\ 2 & -1 & 3 \end{vmatrix}$ is

(A) $-\sec^2\theta$

(B) $\operatorname{cosec}^2\theta$

(C) 1

(D) $\sec^2\theta$

43. The values of x and y in the simultaneous equations $2x - 3y = 13$ and $3x + 4y = -6$ are

(A) $x = -3, y = 2$

(B) $x = -2, y = -3$

(C) $x = 2, y = -3$

(D) $x = 2, y = 3$

44. If $\begin{vmatrix} 3 & -2 & 4 \\ 4 & 0 & x \\ 2 & -5 & 4 \end{vmatrix} = -4$, then the value of x is

(A) 4

(B) -4

(C) $\frac{44}{19}$

(D) $-\frac{44}{19}$

Space For Rough Work

45. The characteristics roots of the matrix $\begin{bmatrix} 2 & 0 \\ 0 & -3 \end{bmatrix}$ are

(A) $\lambda = 2$ and $\lambda = 3$ (B) $\lambda = -2$ and $\lambda = -3$

(C) $\lambda = 2$ and $\lambda = -3$ (D) $\lambda = -2$ and $\lambda = 3$

46. The adjoint of the matrix $\begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$ is

(A) $\begin{bmatrix} 1 & -2 \\ 3 & 4 \end{bmatrix}$ (B) $\begin{bmatrix} 1 & 3 \\ -2 & 4 \end{bmatrix}$

(C) $\begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$ (D) $\begin{bmatrix} 4 & -3 \\ 2 & 1 \end{bmatrix}$

47. If A = (1, 2, –3) and B = (2, 0, –1) then $\overrightarrow{AB}$ is

(A) $i - 2j + 2k$ (B) $-i + 2j - 2k$

(C) $3i + 2j - 4k$ (D) $i + 2j - 2k$

48. The work done by the force $\vec{F} = 2i + 6j - 8k$, whose displacement is $\vec{S} = -2i + 3j - k$ is

(A) 26 units (B) –22 units

(C) 22 units (D) 30 units

49. The vector product of $\vec{a} = 4i - j + k$ and $\vec{b} = 3i - 2k$ is

(A) $2i - 11j + 3k$ (B) $2i + 11j + 3k$

(C) $2i + 5j + 3k$ (D) $2i + 11j - 3k$

50. When a fair coin is tossed two times, the event A "getting exactly one tail" is given by

(A) {HT, TH} (B) {TT}

(C) {TH} (D) {TT, HT}

Space For Rough Work

51. If $\tan\theta = \frac{5}{12}$ and $\pi < \theta < \frac{3\pi}{2}$, then the value of $\sin\theta - \cos\theta$ is

(A) $\frac{17}{13}$ (B) $\frac{7}{13}$

(C) $-\frac{17}{13}$ (D) $-\frac{7}{13}$

52. The value of $\tan 225° \times \cot 405°$ is

(A) 1 (B) –1

(C) 2 (D) $\frac{1}{2}$

53. The value of $\sin 50° \cos 20° - \cos 50° \cdot \sin 20°$ is

(A) $\sin 70°$ (B) $\frac{\sqrt{3}}{2}$

(C) $\frac{1}{2}$ (D) $-\frac{1}{2}$

54. If $\cos A = \frac{15}{17}$ and $\sin B = \frac{3}{5}$, then the value of $\cos(A + B)$ is

(A) $\frac{84}{85}$ (B) $-\frac{36}{85}$

(C) $-\frac{84}{85}$ (D) $\frac{36}{85}$

55. The value of $\sqrt{\frac{1 + \sin 2A}{1 - \sin 2A}}$ is

(A) $\cot\left(\frac{\pi}{4} + A\right)$ (B) $\cot\left(\frac{\pi}{4} - A\right)$

(C) $\tan\left(\frac{\pi}{4} - A\right)$ (D) $\cot\left(\frac{\pi}{2} - A\right)$

Space For Rough Work

56. The value of $\cos 40° + \sin 10°$ is

(A) $\sin 20°$ (B) $-\cos 20°$

(C) $\cos 20°$ (D) $-\sin 20°$

57. The value of $i + i^2 + i^3 + i^4$ is

(A) i (B) –i

(C) 1 (D) 0

58. $\lim_{x \to 0} \frac{x}{\sqrt{1+x}-1}$ is equal to

(A) 0 (B) 1

(C) 2 (D) ∞

59. $\lim_{x \to \infty} \frac{3x^3 + 4x + 7}{(6 + x^2)(x - 1)} =$

(A) 3 (B) –3

(C) $\frac{1}{2}$ (D) $\frac{1}{6}$

60. $\lim_{x \to 0} \frac{3x + \sin 4x}{2 \sin 3x - 5x} =$

(A) $\frac{4}{3}$ (B) 7

(C) $\frac{3}{5}$ (D) $\frac{7}{11}$

Space For Rough Work

61. The slope and y-intercept of the line $6x - 4y + 3 = 0$ are respectively

(A) $\frac{3}{2}$ and $\frac{3}{4}$ (B) $\frac{2}{3}$ and $\frac{4}{3}$

(C) $\frac{-3}{2}$ and $\frac{4}{3}$ (D) $\frac{3}{2}$ and $\frac{2}{3}$

62. The equation of the line joining the points (1, 3) and (2, –4) is

(A) $7x - y - 10 = 0$ (B) $7x + y - 10 = 0$

(C) $x + 7y + 10 = 0$ (D) $x - 7y - 10 = 0$

63. If $y = e^{-2x} + 4a^x$, then $\frac{dy}{dx} =$

(A) $\frac{e^{-2x}}{2} + \frac{4a^x}{\log a}$ (B) $e^{-2x} + 4x\, a^{x-1}$

(C) $-2e^{-2x} + 4a^x \log a$ (D) $2e^{-2x} - 4a^x \log a$

64. If $y = \log(\log 3x)$ then $\frac{dy}{dx} =$

(A) $\frac{1}{x \log 3x}$ (B) $\frac{3}{x \log 3x}$

(C) $2 \log 3x$ (D) $\frac{1}{\log x}$

65. If $xy = x + y^2$, then $\frac{dy}{dx} =$

(A) $\frac{x - 2y}{1 - y}$ (B) $\frac{1 - y}{x - 2y}$

(C) $\frac{2y - x}{y - 1}$ (D) $\frac{1 + y}{x + 2y}$

Space For Rough Work

66. If $x = \tan^{-1} t$ and $y = 3t + t^3$ then $\frac{dy}{dx} =$

(A) 3

(B) $3(1 + t^2)^2$

(C) $\frac{3}{(1 + t^2)^2}$

(D) $\frac{1}{3(1 + t^2)^2}$

67. If $y = (x)^{\frac{1}{x}}$, then $\frac{dy}{dx} =$

(A) $y\left[\frac{1 + \log x}{x^2}\right]$

(B) $\frac{1 + \log x}{x^2 y}$

(C) $\frac{1 - \log x}{x^2 y}$

(D) $\frac{y[1 - \log x]}{x^2}$

68. Which of the following equations satisfy for the function $y = e^{\tan^{-1} x}$ with usual notations ?

(A) $(1 + x^2)y_2 + (2x - 1)y_1 = 0$

(B) $(1 + x^2)y_2 + 2xy_1 = 0$

(C) $(1 - x^2)y_2 - xy_1 - y = 0$

(D) $xy_2 - 2y_1 - xy = 0$

69. The equation of a normal to the curve $y = 4x^3 + 3x^2 + 4$ at the point $(-1, 3)$ is

(A) $6x + y - 19 = 0$

(B) $x + 6y - 17 = 0$

(C) $x - 6y + 17 = 0$

(D) $6x - y + 19 = 0$

70. The rate of change of surface area of a sphere is 12 cm^2/s. The rate at which the radius is changing when the radius of the sphere is 2 cm is equal to

(A) $\frac{\pi}{4}$ cm/s

(B) $\frac{3\pi}{4}$ cm/s

(C) 3π cm/s

(D) $\frac{3}{4\pi}$ cm/s

Space For Rough Work

71. $\int \left(1 + x - \frac{1}{x} + e^x\right) dx$

(A) $1 - \frac{1}{x^2} + e^x + c$

(B) $1 + \frac{x^2}{2} - \frac{1}{x^2} + e^x + c$

(C) $x + \frac{x^2}{2} - \log x + e^x + c$

(D) $x + 1 - \frac{1}{x^3} - e^x + c$

72. $\int e^{\tan x} \cdot \sec^2 x \, dx =$

(A) $e^{\tan x} + c$

(B) $e^{\sec^2 x} + c$

(C) $e^{\tan^2 x} + c$

(D) $e^{\sec x} + c$

73. $\int \cot^2 x \, dx =$

(A) $-\text{cosec } x + c$

(B) $-\cot x - x + c$

(C) $-\cot x + x + c$

(D) $\cot x + x + c$

74. $\int x \sin x \, dx =$

(A) $x \sin x - \cos x + c$

(B) $x \cos x - \sin x + c$

(C) $x \sin x + \cos x + c$

(D) $-x \cos x + \sin x + c$

75. $\int \sqrt[3]{x^2} \, dx =$

(A) $\frac{5}{2} x^{\frac{5}{2}} + c$

(B) $\frac{3}{5} x^{\frac{5}{3}} + c$

(C) $\frac{5x^{\frac{2}{5}}}{2} + c$

(D) $\frac{x^2}{2} + c$

Space For Rough Work

76. $\int_0^{\pi/2} \cos^2 x \, dx =$

(A) $\frac{\pi}{2}$ (B) $\frac{\pi}{6}$

(C) $\frac{\pi}{3}$ (D) $\frac{\pi}{4}$

77. The volume of a solid generated when the curve $y = \sqrt{x^2 + 4}$ is rotated about x-axis between the ordinates $x = -1$ and $x = 1$ is

(A) $\frac{23\pi}{3}$ cubic units (B) $\frac{26\pi}{3}$ cubic units

(C) $\frac{16\pi}{3}$ cubic units (D) 0

78. The order and degree of the differential equation $\frac{dy}{dx} = \sqrt{1 + \frac{d^2y}{dx^2}}$ respectively are

(A) 1 and 1 (B) 1 and 2

(C) 2 and 1 (D) 2 and 2

79. The differential equation formed from the equation $y = ae^x + be^{-x}$ by eliminating arbitrary constants is

(A) $\frac{d^2y}{dx^2} - y = 0$ (B) $\frac{d^2y}{dx^2} + y = 0$

(C) $\frac{dy}{dx} + y = 0$ (D) $\frac{dy}{dx} - y = 0$

80. Solution of the differential equation $\frac{dy}{dx} = \frac{1 + y^2}{1 + x^2}$ is

(A) $\tan^{-1} y + \tan^{-1} x = k$ (B) $\tan^{-1} y - \tan^{-1} x = k$

(C) $\sin^{-1} y + \sin^{-1} x = k$ (D) $\sin^{-1} y - \sin^{-1} x = k$

Space For Rough Work

PART-C
COMPUTER SCIENCE

81. Converting a fractional decimal number to binary equivalent is got by continuously _____ the number by 2 (two).

(A) dividing (B) multiplying
(C) adding (D) subtracting

82. _____ of the following gate gives the output 0 (zero) when all its inputs are 1 (one).

(A) AND (B) OR
(C) NAND (D) None of these

83. Coded information is converted into non-coded form by

(A) Encoder (B) Decoder
(C) De-multiplexer (D) Multiplexer

84. A binary number can be converted to 7 segment display by using

(A) Multiplexer (B) De-multiplexer
(C) Decoder (D) Encoder

85. First generation of computer is

(A) expensive (B) used great deal of electricity
(C) generated lot of heat (D) All of these

86. Match the following :

W.	Special purpose computers	i.	Based on brand
X.	Digital computers	ii.	Based on size
Y.	IBM computers	iii.	Based on data
Z.	Mini computers	iv.	Based on purpose

	W	X	Y	Z
(A)	iv	iii	ii	i
(B)	iv	iii	i	ii
(C)	iii	i	ii	iv
(D)	iii	iv	i	ii

Space For Rough Work

87. High level language limitation is

(A) very difficult to maintain
(B) low time & space efficiency
(C) difficult to learn and use
(D) machine dependency

88. Which is not an input device ?

(A) Keyboard
(B) Mouse
(C) Speaker
(D) Scanner

89. EEPROM is

(A) Elementary Erasable Programmable ROM
(B) Electrically Erasable Programmable ROM
(C) Enhanced Erasable Programmable ROM
(D) Extended Erasable Programmable ROM

90. Which of the following has worst access time ?

(A) Magnetic disk
(B) Compact disk
(C) Semi conductor memory
(D) Magnetic tapes

91. When a process is scheduled to run during another process execution, then this process is in

(A) waiting state
(B) ready state
(C) blocked state
(D) running state

92. CPU scheduling decision may take place under which of these circumstances ?

(A) When a process switches from wait state to ready state.
(B) When a process switches from running state to ready state.
(C) When a process terminates
(D) All of these

93. The fundamental model of inter process communication

(A) shared memory
(B) message passing
(C) Both (A) & (B)
(D) None of these

Space For Rough Work

94. The code segment in which process change common variables / update tables / write into files is

(A) program (B) critical section

(C) non-critical section (D) synchronizing section

95. For deadlock detection, the system may provide

(A) algorithm to determine whether a deadlock has occurred.

(B) algorithm to recover from deadlock.

(C) Both (A) and (B)

(D) None of these

96. Maximum amount of time is spent on _____, while swapping.

(A) waiting (B) transferring

(C) execution (D) getting ready

97. Segment table entry has

(A) base address and limit (B) logic address and size

(C) physical address and size (D) segment number and offset

98. Fixed size contiguous blocks of physical memory are called

(A) frames (B) pages

(C) segments (D) tables

99. Deadlock can be avoided when

(A) resource allocation is done once only.

(B) abort all deadlocked processes.

(C) fixed number of resources are available to allocate.

(D) inversion technique is used.

100. _____ provides enormous virtual memory on a smaller memory.

(A) Page replacement (B) Framing

(C) Buffering (D) Contiguous allocation

Space For Rough Work

101. _____ value changes during program execution.

(A) Constant (B) Variable

(C) Static (D) Simple

102. sizeof() in 'C' is

(A) function (B) constant

(C) operator (D) macro

103. What is the output of the following code ?

```
void main( )
{
    int x = 50/7;
    printf ("%d",x);
}
```

(A) 7.142 (B) 7.143

(C) 7 (D) 7.1

104. _____ keyword is used to skip the current iteration of a loop.

(A) break (B) return

(C) continue (D) exit

105. How many times Hello is printed ?

```
void main()
{
    int x=0;
    while (x ++ < 5)
    printf ("Hello");
}
```

(A) 4 times (B) 1 time

(C) 5 times (D) 0 times

Space For Rough Work

106. What is the output of the following 'C' code ?

```
int main()
{
    int i=0;
    for (i ++; i = =1; i ++ )
    printf("FirstLine");
    printf ("SecondLine");
}
```

(A) FirstLineSecondLine
(B) SecondLine
(C) No output
(D) Compile time error

107. Variables used in the function call are

(A) Formal parameters
(B) Actual parameters
(C) Dummy parameters
(D) Default parameters

108. The return type of user-defined function in 'C' if not specified in function definition is

(A) void
(B) int
(C) double
(D) short int

109. Determine the o/p in the following code :

```
# include <stdio.h>
int abc(int);
void main()
{
    int i = abc(5);
    printf ("%d",i);
}
int abc(int i)
{
    return(i ++);
}
```

(A) 4
(B) 5
(C) 6
(D) 7

Space For Rough Work

110. In 'C', if you pass an array as an argument to a function, what actually gets passed ?

(A) Value of elements in array
(B) First element of the array
(C) Base address of the array
(D) Address of the last element of the array

111. What is the effect of the following code ?

```
main()
{
    int a[4] = {1, 5};
    printf("%d", a[3]);
}
```

(A) 0
(B) Syntax error due to improper initialization
(C) 5
(D) Garbage value

112. If two strings are identical, then strcmp() function returns.

(A) True
(B) 1
(C) 0
(D) String itself

113. Why preprocessor is required ?

(A) To include header file
(B) To include macro expansions
(C) To do conditional compilation
(D) All of these

114. Which of the following operation is illegal in structures ?

(A) Type casting of structure
(B) Pointer to a variable of same structure
(C) Dynamic allocation of memory for structure
(D) All of these

115. The similarity between a structure and union is to define

(A) new values
(B) new datatypes
(C) new pointers
(D) new structures

Space For Rough Work

116. What does this declaration mean ?

```
int *ptr, p;
```

(A) ptr is a pointer to integer p.
(B) ptr and p, both are pointers to integer.
(C) ptr and p are integer.
(D) ptr is a pointer to integer and p is integer.

117. What is the output of the following code ?

```
#include <stdio.h>
void main()
{
    int *ptr, a=5;
    ptr = &a;
    *ptr += 1;
    printf("%d, %d", *ptr, a);
}
```

(A) 5, 5 (B) 5, 6
(C) 6, 6 (D) 6, 5

118. The first element of an array ABC can be accessed by

(A) ABC[0] (B) *ABC
(C) *ABC + 0 (D) All of these

119. If there is an error while file opening, fopen() will return

(A) pointer to EOF (B) EOF
(C) NULL (D) Depends on compiler

120. getc() returns EOF

(A) when getc() fail to read the character.
(B) when end of file is reached.
(C) Both (A) and (B)
(D) None of these

Space For Rough Work

121. Which of the following is a primitive data type ?

(A) array (B) structure

(C) enum (D) boolean

122. Which data structure is used for implementing recursion ?

(A) Queue (B) Stack

(C) Array (D) List

123. Removing an element from an empty stack leads to

(A) underflow (B) empty collection

(C) overflow (D) garbage collection

124. Which of the following application/s will use a stack ?

(A) A parantheses balancing program (B) Tracking of local variables at run time

(C) Compiler syntax analyzer (D) All of these

125. The postfix form of A * B + C / D is

(A) * A B / C D + (B) A B * C D / +

(C) A * B C + / D (D) A B C D + / *

126. A queue works on the concept of

(A) FIFO (B) LIFO

(C) Ordered Array (D) Linear tree

127. If the elements "M", "N", "O", "P" are placed in the queue by inserting "M" first and are deleted one at a time, in what order will they be removed ?

(A) MNOP (B) NMOP

(C) POMN (D) PONM

128. _____ permits Insertion/deletion operation at both the end not in the middle.

(A) QUEUE (B) DEQUEUE

(C) CIRCULAR QUEUE (D) None of these

Space For Rough Work

129. Which of the following 'C' code is used to create new node ?

(A) ptr = (NODE *) malloc (sizeof (NODE));

(B) ptr = (NODE *) malloc (NODE);

(C) ptr = (NODE *) malloc (sizeof (NODE *));

(D) ptr = (NODE) malloc (sizeof (NODE));

130. The statement which is false about a doubly linked list is

(A) we can traverse in both the directions.

(B) it requires more space than a singly linked list.

(C) the insertion and deletion of a node take a bit longer.

(D) None of these

131. DBMS is a collection of _____ that enables users to create and maintain a database.

(A) keys (B) translators

(C) programs (D) language activity

132. In an ER diagram _____ symbol is used to describe weak entity.

(A) Rectangle (B) Double rectangle

(C) Diamond (D) Oval

133. A/An _____ schema describes how the data is physically stored on the disk.

(A) internal (B) external

(C) relational (D) None of these

134. _____ is an aggregate function used to find the total number of records in a table.

(A) TOTAL (B) COUNT

(C) MIN (D) SUM

135. The collection of information stored in a database at a particular moment is called as

(A) Schema (B) Instance

(C) Data domain (D) Intension

Space For Rough Work

136. Key to represent relationship between tables is called
(A) Primary key (B) Secondary key
(C) Foreign key (D) Candidate key

137. Grant and Revoke are _____ commands.
(A) DDL (B) TCL
(C) DCL (D) DML

138. The value of NULL cannot be
(A) unknown (B) value exists but unknown
(C) 0 (zero) (D) Not applicable

139. _____ command is used to modify a column in a table.
(A) alter (B) update
(C) set (D) create

140. A relation is in _____ if every field contains only atomic values.
(A) 1NF (B) 2NF
(C) 3NF (D) BCNF

141. In JAVA, size of short data type is
(A) 8 bit (B) 32 bit
(C) 16 bit (D) 64 bit

142. Key word used in a sub class to call the constructor of super class is
(A) super (B) this
(C) implements (D) static

143. Which of these is correct way of deriving class B from class A ?
(A) class A extends B { } (B) class B extends A { }
(C) class B extends class A { } (D) class A extends class B { }

Space For Rough Work

144. Vector class is defined in _____ package.

(A) java.lang (B) java.io

(C) java.util (D) java.awt

145. The method used to convert string object type into primitive integer value is

(A) byteValue () (B) parseInt()

(C) toStringInt() (D) intValue()

146. The variables defined in an interface are

(A) protected & static (B) private & final

(C) static & final (D) All of these

147. Which of the following method cannot be overridden ?

(A) Abstract method (B) Final method

(C) Static method (D) All of these

148. Java compiler can detect

(A) compilation errors (B) run time errors

(C) logical errors (D) All of these

149. A class used to create a variable length string is

(A) String (B) StringBuffer

(C) Array (D) List

150. Package is a collection of

(A) programs (B) classes

(C) interfaces (D) classes and interfaces

151. Access specifier used for java main() method

(A) private (B) public

(C) protected (D) Any one of these

Space For Rough Work

152. Which of the following statement is incorrect ?

(A) Static methods can call other static methods only.

(B) Static methods must only access static data.

(C) Static methods cannot refer to this or super key word.

(D) When objects of class are declared, each object contains its own copy of static variables.

153. In java the _____ operator is used to access the instance variables and methods of class object.

(A) dot (.) (B) bitwise

(C) instanceof (D) conditional

154. Which package includes all the standard classes of Java ?

(A) java.math (B) java.io

(C) java.lang (D) java.util

155. When a class extends the thread class, it should override _____ method to start.

(A) init() (B) start()

(C) yield() (D) run()

156. Finding the location of the element with a given value is

(A) Traversal (B) Search

(C) Sort (D) None of these

157. How many passes are required to sort a file of size 'n' by bubble sort method ?

(A) n^2 (B) $n - 1$

(C) n (D) n/2

158. The performance of an algorithm depends on

(A) Memory & CPU (B) Data & information

(C) Determination & dedication (D) Time & space

Space For Rough Work

159. The Knapsack problem belongs to the domain of _____ problems.
(A) optimization (B) linear solution
(C) sorting (D) searching

160. Step-by-step procedure is known as
(A) Program (B) Flowchart
(C) Algorithm (D) All of these

161. _____ is used to establish slowest type of network connection.
(A) Dial-up modem (B) Bridge
(C) DSL (D) Router

162. In a Ring topology, the server is located _____ the ring.
(A) outside (B) within
(C) without (D) outward

163. The interface between the user and the system is established at _____ layer.
(A) transport (B) session
(C) presentation (D) application

164. The size of host bits in class B of IP address is
(A) 16 (B) 08
(C) 12 (D) 24

165. Both TCP and UDP are used by _____ services.
(A) DNS (B) HTTP
(C) SNMP (D) None of these

166. The process of expecting privacy by both sender and receiver is called as
(A) Message Integrity (B) Message Authentication
(C) Message Confidentiality (D) Message Sharing

Space For Rough Work

167. The purpose of Digital Signature is to provide
(A) Confidentiality (B) Authentication
(C) Non-repudiation (D) Both (B) and (C)

168. The process of deciphering is called as
(A) Crypting (B) Cryptography
(C) Cryptology (D) Cryptanalysis

169. If GPT = FOS, then CSE = _____.
(A) BOS (B) BRD
(C) BQC (D) BTF

170. The process of hiding information inside a picture is called
(A) cryptography (B) steganography
(C) image hiding (D) image compression

171. _____ is / are used to provide single line comment in a PHP.
(A) // (B) #
(C) /* */ (D) All of these

172. _____ is not a conditional statement in PHP.
(A) if (B) if-else
(C) switch (D) None of these

173. Array Index starts with _____ in PHP.
(A) –1 (B) 0
(C) 1 (D) None of these

174. _____ is a predefined variable in PHP.
(A) $ask (B) $tel
(C) $get (D) $give

Space For Rough Work

175. In PHP [: alpha :] is same as that of

(A) [a – ʒ] (B) [A – ʒ]

(C) [A – z] (D) [A – z a – ʒ]

176. Predefined attribute in XML is

(A) lang : xml (B) xml : Lang

(C) xml : Langs (D) Langs : xml

177. _____ HTML element is used to create a data called polytechnic in XML.

(A) <polytechnic> (B) <datapolytechnic>

(C) <XMLpolytechnic> (D) <XML>

178. The function/s of XML is/are

(A) structure information (B) transport information

(C) store information (D) All of these

179. _____ tags are used to provide links in the web pages.

(A) < alt > and < /alt > (B) < a > and < /a >

(C) < Link > and < /Link > (D) < page > and < /page >

180. _____ tag add colspan = n.

(A) <td> (B) <table>

(C) <th> (D) <tr>

Space For Rough Work

Space For Rough Work

CONFIDENTIAL