KARNATAKA EDUCATION AUTHORITY

(KEA)

DIPLOMA COMMON ENTRANCE TEST

DCET 2013

ACTUAL QUESTION PAPER

BTech (LATERAL ENTRY)

COMPUTER SCIENCE ENGINEERING

DIPLOMA – COMMON ENTRANCE TEST-2013

CS	COURSE	DAY : SUNDAY DATE : 30-JUNE-2013
	COMPUTER SCIENCE ENGINEERING	TIME : 9.00 a.m. to 12.00 Noon

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-3	109395

DOs :

1. Check whether the Diploma CET No. has been entered and shaded in the respective circles on the OMR answer sheet.
2. This question booklet is issued to you by the invigilator after the **2nd bell i.e., after 08.50 a.m.**
3. The serial number of this question booklet should be entered on the OMR answer sheet.
4. The version code of this question booklet should be entered on the OMR answer sheet and the respective circles should also be shaded completely.
5. Compulsorily sign at the bottom portion of the OMR answer sheet in the space provided.

DON'Ts :

1. **THE TIMING AND MARKS PRINTED ON THE OMR ANSWER SHEET SHOULD NOT BE DAMAGED / MUTILATED / SPOILED.**
2. The **3rd Bell rings at 9.00 a.m., till then;**
   - Do not remove the seal / staple 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 9.00 a.m.**, remove the paper seal / polythene bag 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.**

Correct Method of shading the circle on the OMR answer sheet is as shown below :

① ● ③ ④

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 12.00 Noon,** 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.**

[P.T.O.

DO NOT WRITE HERE

PART – A

It consists of **1 – 40** questions.

1. The constant term in the expansion $(x^2 + 1/x)^{12}$ is

   (1) – 495 (2) 495

   (3) 1/495 (4) 945

2. The projection of vector (3, 1, 3) on vector (1, – 2, 1) is

   (1) $2\sqrt{6}/5$ (2) $-2\sqrt{6}/3$

   (3) $2\sqrt{6}/3$ (4) $-2\sqrt{6}/5$

3. If vector a = (1, 1, 1) and vector b = (2, 2, 1) then magnitude of vector a × b is

   (1) $\sqrt{26}$ (2) $\sqrt{28}$

   (3) $\sqrt{24}$ (4) 1

4. The cosine of the angle between the vectors (3, – 1, 1) and vector (1, 1, – 1) is

   (1) $1/\sqrt{11}$ (2) $-1/\sqrt{33}$

   (3) $1/\sqrt{33}$ (4) $-1/\sqrt{11}$

5. The value of $(\sec^6 x - \tan^6 x)$ is

   (1) $1 - 3\sec^2 \times \tan^2 x$

   (2) $1 + \tan^2 \times \sec^2 x$

   (3) $1 + 3\sec^2 \times \tan^2 x$

   (4) $1 - \tan^2 \times \sec^2 x$

SPACE FOR ROUGH WORK

6. The equation to the straight line passing through (3, 2) and perpendicular to the line $5x + 2y - 3 = 0$ is

   (1) $2x - 5y - 4 = 0$

   (2) $2x - 5y + 4 = 0$

   (3) $2x + 5y + 4 = 0$

   (4) $5x - 2y + 4 = 0$

7. The slope of a line passing through the points $(-4, -5)$ and $(2, 3)$ is

   (1) 3/4 (2) $-3/4$

   (3) 4/3 (4) $-4/3$

8. The acute angle between the lines $2x - y + 3 = 0$ and $x - 3y + 2 = 0$ is

   (1) 30° (2) 60°

   (3) 90° (4) 45°

9. The value of $\lim_{n\to\infty} [(3 - n)(4 - n)(2n - 5)] / (4n^3 - 3)$

   (1) $-1/2$ (2) 1/2

   (3) 3/2 (4) $-3/2$

10. The value of $\lim_{x\to -3} (x^4 - 81) / (x^3 + 27)$ is

    (1) 3 (2) -3

    (3) 4 (4) -4

11. $\int_0^2 (x - 1)(x - 2)\, dx$ is

    (1) 2/3 (2) $-2/3$

    (3) 3/2 (4) $-3/2$

SPACE FOR ROUGH WORK

12. The area bounded by the curve $y = 2x^2$, the x – axis and the ordinates at $x = -1$ and $x = 2$ is

(1) – 6 sq units

(2) 3 sq units

(3) – 3 sq units

(4) 6 sq units

13. The differential equation formed by eliminating a and b from $x + y = ae^x + be^{-x}$ is

(1) $d^2y/dx^2 + y = 0$

(2) $d^2y/dx^2 - y = 0$

(3) $d^2y/dx^2 - x - y = 0$

(4) $d^2y/dx^2 + x - y = 0$

14. The solution of the differential equation $dy/dx = (1 + y^2) / (1 + x^2)$ is

(1) $\tan^{-1} y + \tan^{-1} x + c = 0$

(2) $\log (1 + y^2) + \log (1 + x^2) + c = 0$

(3) $\tan^{-1} y - \tan^{-1} x + c = 0$

(4) $\log (1 + y^2) - \log (1 + x^2) + c = 0$

15. If $\begin{vmatrix} x+2 & 5 \\ 0 & x-2 \end{vmatrix} = 0$, then x =

(1) 1 (2) 2

(3) 3 (4) 0

16. If $x \cot 45° \cos 60° = \sin 60° \tan 30°$ then the value of x is

(1) $\sqrt{3}$ (2) $\sqrt{3}/2$

(3) 1/2 (4) 1

SPACE FOR ROUGH WORK

17. If $\tan x = 15/8$ and x is in the III quadrant then the value of $(2 \sin x - 3 \cos x) / (2 \cos x + 3 \sin x)$ is

(1) 61/6 (2) – 61/6

(3) – 6/61 (4) 6/61

18. The value of $\{[\sin(2\pi - \theta) + \cos(-\theta)] / [\tan(-\theta) + \cot(2\pi + \theta)]\} - \{[\sin(\pi/2 + \theta) + \cos(3\pi/2 - \theta)] / [\cot(\pi + \theta) + \tan(2\pi - \theta)]\}$ is

(1) 0 (2) – 1

(3) + 1 (4) – 2

19. If $\sin A = 5/13$ and $\sin B = 4/5$ then the value of $\cos(A - B)$ is

(1) 65/56 (2) 56/65

(3) 16/65 (4) – 16/65

20. On simplification the value of $(\cos^3 A - \cos 3A) / \cos A + (\sin^3 A + \sin 3A) / \sin A$ is

(1) 3 (2) 1

(3) 2 (4) 0

21. $d/dx\left(\sqrt{\sin^2 x}\right)$ is

(1) $\cos x$ (2) $\sin 2x$

(3) $\cos^2 x$ (4) $\sqrt{\cos x / \sin x}$

22. $d/dx \tan^{-1} \sqrt{(1-\cos 2x)/(1+\cos 2x)}$ is

(1) 1 (2) 0

(3) $\tan x$ (4) $\cos x$

23. If $y = \sin x^x$ then dy/dx is

(1) $x \log \sin x$ (2) $\cos x^x$

(3) $\sin x^x (x \cot x + \log \sin x)$ (4) $\cos x^x (x \tan x + \log \sec x)$

SPACE FOR ROUGH WORK

24. $d/dx\left(\sin h^{-1} x\right)$ is

(1) $1/\sqrt{1+x^2}$ (2) $1/\sqrt{1-x^2}$

(3) $1/\sqrt{x^2-1}$ (4) $1/\sqrt{x^2+1}$

25. The equation to the normal to the curve $y = 5x^2 + 4x - 11$ at the point $(-1, 2)$ is

(1) $x - 6y + 11 = 0$

(2) $x + 6y - 11 = 0$

(3) $6x - y + 11 = 0$

(4) $6x + y - 11 = 0$

26. In solving the equations by Cramer's rule for $5x - 3y = 1$ and $2x - 5y = -11$, the value of x and y is

(1) (3, 2) (2) (−3, −2)

(3) (2, 3) (4) (−2, −3)

27. If $A = \begin{bmatrix} 2 & 0 & 0 \\ 1 & 2 & 0 \\ 1 & 1 & 2 \end{bmatrix}$ then A adj A is

(1) Diagonal (2) Scalar

(3) Identity (4) Zero matrix

28. The minor of the element 6 in a matrix $A = \begin{bmatrix} 2 & -3 & 0 \\ 4 & 1 & 6 \\ 3 & 2 & 0 \end{bmatrix}$ is

(1) 10 (2) 11

(3) 12 (4) 13

SPACE FOR ROUGH WORK

29. The characteristic equation of the matrix $A = \begin{bmatrix} 5 & -3 \\ 2 & 1 \end{bmatrix}$ is

(1) $\lambda^2 - 6\lambda + 11 = 0$ (2) $\lambda^2 - 6\lambda - 11 = 0$

(3) $\lambda^2 + 6\lambda + 11 = 0$ (4) $-\lambda^2 + 6\lambda = 0$

30. The fourth term in the expansion of $\left(\sqrt{3}+2\right)^7$ is

(1) 2520 (2) – 2520

(3) 1/2520 (4) – 1/2520

31. The value of (sin 100° + sin 20°) / (cos 100° + cos 20°) is

(1) $\sqrt{3}/2$ (2) 1/2

(3) $\sqrt{3}$ (4) 1

32. The value of $(\tan^{-1} 5/6 + \tan^{-1} 1/11)$ is

(1) 30° (2) 60°

(3) 90° (4) 45°

33. If the points (– 3, K), (5, 7) and (– 11, 1) are collinear, then the value of K is

(1) 4 (2) 3

(3) 2 (4) 1

34. The ratio of the line join of the points (2, 3) and (– 5, 6) divided by y – axis is

(1) 5 : 2 (2) 2 : 5

(3) 3 : 2 (4) 2 : 3

35. Three vertices of a triangle are (– 2, 3, 1), (– 1, 4, 2) and (– 6, 5, 2), then the centroid of the triangle is

(1) (– 3, 4, 1) (2) (0, 5/3, 1/3)

(3) (4, 3, 1) (4) (– 3, – 4, – 2)

SPACE FOR ROUGH WORK

36. The volume of a sphere is increasing at the rate of 4π c.c/sec, then the rate of increase of the radius is when the volume is $288\ \pi$ cc

(1) 6 cm/sec
(2) 1/6 cm/sec
(3) 1/36 cm/sec
(4) 36 cm/sec

37. $\int \sin^2 x\, dx$ is

(1) $\cos x + c$
(2) $x/2 - (\sin 2x)/4 + c$
(3) $x/2 + (\cos 2x)/4 + c$
(4) $x/2 + (\sin 2x)/4 + c$

38. $\int (3x^2 + x - 1)^6 (6x + 1)\, dx$ is

(1) $6(3x^2 + x - 1)^5 + c$
(2) $(3x^2 + x - 1)^6 + c$
(3) $(3x^2 + x - 1)^7 / 7 + c$
(4) $(3x^2 + x - 1)^7 / 21 + c$

39. $\int \tan^{-1} x\, dx$ is

(1) $x \tan^{-1} x - 1/2 \log (1 + x^2) + c$
(2) $x \tan^{-1} x + 1/2 \log (1 + x^2) + c$
(3) $\tan^{-1} x - 1/2 \log (1 + x^2) + c$
(4) $\tan^{-1} x + 1/2 \log (1 + x^2) + c$

40. $\int_0^{\pi/2} \sin 3x \cos 2x\, dx$ is

(1) 3/5
(2) $-3/5$
(3) 5/3
(4) $-5/3$

SPACE FOR ROUGH WORK

PART – B

It consists of **41 – 80** questions.

41. Poisson's ratio is the ratio of

(1) $\frac{\textit{Lateral strain}}{\textit{Linear strain}}$ (2) $\frac{\textit{Linear strain}}{\textit{Lateral strain}}$

(3) $\frac{\textit{Lateral strain}}{\textit{Volume strain}}$ (4) $\frac{\textit{Volume strain}}{\textit{Lateral strain}}$

42. The pressure at a depth of 100 m below the surface of water density 1000 kgm^{-3} is

(1) $98 \times 10^5\ Nm^{-2}$ (2) $9.8 \times 10^4\ Nm^{-2}$

(3) $980 \times 10^4\ Nm^{-2}$ (4) $98 \times 10^4\ Nm^{-2}$

43. When two capillary tube of different diameters are dropped vertically in a liquid, the height of the liquid is

(1) More in the tube of larger diameter

(2) More in the tube of smaller diameter

(3) Lesser in the tube of smaller diameter

(4) Same in both the tubes

44. The property by virtue of which a liquid opposes relative motion between its different layers is

(1) Viscosity (2) Elasticity

(3) Surface tension (4) Inertia

45. The maximum amount of force acting for a short duration is known as

(1) Momentum (2) Inertia

(3) Power (4) Impulse

SPACE FOR ROUGH WORK

46. Absolute zero is the temperature of a gas at which, the _____ of gas is theoretically zero.

(1) Mass
(2) Weight
(3) Volume
(4) Density

47. When the particle is in SHM having amplitude ' r ' ,then its velocity is

(1) $v = \omega (r^2 - y^2)$
(2) $v = \omega\sqrt{r^2 - y^2}$
(3) $v = r\omega^2$
(4) $v = r\omega^3$

48. Ripples in water are the example for

(1) Transverse wave
(2) Longitudinal wave
(3) Sound wave
(4) Ultrasonic wave

49. The length of one ventral segment in stationary wave is equal to

(1) Full wavelength of the wave
(2) Twice the wavelength of the wave
(3) Half a wavelength of the wave
(4) Quarter a wavelength of the wave

50. A stretched string under a tension T vibrates with a frequency f. When the tension is increased by 4 times, then the frequency becomes _____

(1) same
(2) doubled
(3) tripled
(4) zero

51. The appearance of additional frequencies in scattered beam of light is known as

(1) Raman effect
(2) Coherent scattering
(3) Incoherent scattering
(4) Bipolar scattering

SPACE FOR ROUGH WORK

52. Two properties of LASER are

(1) Highly monochromatic and extremely intense

(2) Highly chromatic and extremely fast

(3) Very high frequency and extremely high wave length

(4) Very high power and extremely low amplitude

53. To form a galvanic cell

(1) difference in concentration of electrolyte is required

(2) difference in concentration of frequency is required

(3) difference in concentration of amplitude is required

(4) both (2) and (3)

54. pH value is not having its application in

(1) determination of quality of soil

(2) determination of quality of textile dyes

(3) determination of quality of chemicals

(4) determination of quality of electron

55. The prefix "mega" stands for

(1) 10^3 (2) 10^{-3}

(3) 10^{-6} (4) 10^6

56. A bullet of mass 0.01 kg is fired from a rifle of mass 20 kg with a speed of 10 m/s , then the recoil velocity of rifle is _____ m/s.

(1) -1 (2) -0.05

(3) -200.01 (4) -0.005

57. Final velocity of a body thrown downwards is _____

(1) Maximum (2) Minimum

(3) No change (4) Zero

SPACE FOR ROUGH WORK

58. A person throws a sand bag from a boat at rest in a pond then boat moves

(1) In the same direction

(2) In the opposite direction

(3) In a perpendicular direction

(4) In circular direction

59. Two equal forces at a point, the square of their resultant is equal to three times the product of the forces. Then the angle between the forces is equal to

(1) 30° (2) 45°

(3) 60° (4) 90°

60. Equilibrant is a force

(1) Which brings a body in equilibrium

(2) Which moves the body along the resultant force

(3) in zig-zag movement of the body

(4) Which moves the body in opposite direction to equilibrant force

61. The best value of reverberation time for speech listener _____

(1) 0.5 to 1.5 s (2) 0.15 to 0.5 s

(3) 0.05 to 0.15 s (4) 0.5 to 5 s

62. 3 strings of equal lengths but stretched with different tensions are made to vibrate, if their masses per unit length are in the ratio 3:2:1 and frequencies are same then the ratio of the tensions _____

(1) 1:2:3 (2) 2:3:1

(3) 1:3:2 (4) 3:2:1

63. Newton's formula for velocity of sound was corrected by

(1) Boyle (2) Charles

(3) Laplace (4) Hertz

SPACE FOR ROUGH WORK

64. Light waves are composed of both electric and magnetic field is proposed by

(1) Newton's corpuscular theory

(2) Huygen's wave theory

(3) Maxwell's theory of light

(4) Plank's theory

65. If 'a' and 'b' are the amplitudes of two interfering waves then for destructive interference the amplitude ' R' is

(1) R = ab (2) R = a/b

(3) R = a – b (4) R = a + b

66. Which of the following is dimensional physical quantity ?

(1) pressure (2) strain

(3) mechanical advantage (4) sp.gravity

67. The principle of vernier is

(1) n VSD = (n + 1) MSD (2) (n – 1) VSD = n MSD

(3) n MSD = (n – 1) V SD (4) (n – 1) MSD = n VSD

68. A screw gauge has a pitch of $\frac{1}{2}$ mm and 50 division on sleeve. The reading when the jaws touch is +5 division. While gripping a wire the reading is PSR = 3 PSD and HSR = 17, then the diameter of wire is

(1) 1.62 cm (2) 0.162 cm

(3) 0.162 mm (4) 16.2 mm

69. The extension of the material by itself without increase of load takes place

(1) within elastic limit

(2) beyond elastic limit

(3) beyond yield point

(4) at breaking point

SPACE FOR ROUGH WORK

70. If the strain in a wire is 0.1%, then the change in the length of the wire of length 5 m is

(1) 5×10^{-2} m (2) 5×10^{-3} m

(3) 5×10^{-4} m (4) 5×10^{-3} cm

71. A force of 10 N acting on a body fixed at a point the distance from the fixed point to the line of force is 2 m. Then the moment of the force is _____ N-m.

(1) 0.002 (2) 0.02

(3) 2 (4) 20

72. By Lami's theorem, P Q R are three forces acting in equilibrium and angle between PR, PQ, QR, are α, β, γ respectively then which of the following is correct ?

(1) $\frac{P}{\sin\beta} = \frac{Q}{\sin\gamma} = \frac{R}{\sin\alpha}$ (2) $\frac{P}{\sin\gamma} = \frac{Q}{\sin\alpha} = \frac{R}{\sin\beta}$

(3) $\frac{P}{\sin\alpha} = \frac{Q}{\sin\beta} = \frac{R}{\sin\gamma}$ (4) $\frac{P}{\sin\alpha} = \frac{Q}{\sin\gamma} = \frac{R}{\sin\beta}$

73. If the line of action of the force passes through the point of rotation, then the moment of force is

(1) Maximum (2) Less than one

(3) Greater than one (4) Zero

74. 1 Kilo calorie of heat is equal to _____ joule.

(1) 4.186 (2) 41.86

(3) 418.6 (4) 4186

75. The correct relation between °F and K scale is

(1) $5K = 9 (F - 32)$

(2) $9K = -5(F - 32)$

(3) $K = \frac{9}{5} (F - 32) - 273$

(4) $K = \frac{5}{9} (F - 32) + 273$

SPACE FOR ROUGH WORK

76. Two coherent sources 2×10^{-4} m apart are illuminated by the light of wave length 5000×10^{-10}m. The distance between the source and screen is 0.2m, then fringe width is

(1) 0.05×10^{-3} m

(2) 5×10^{-3}m

(3) 0.5×10^{-3}m

(4) 50×10^{-3}m

77. Resolving power of microscope is

(1) Equal to the resolution of the microscope

(2) Reciprocal to the resolution of the microscope

(3) Reciprocal to the focal length of the microscope

(4) Product of wave length and semi vertical angle

78. Which of the following phenomenon confirm that light is transverse wave ?

(1) Diffraction

(2) Interference

(3) Refraction

(4) Polarization

79. In Field emission

(1) High positive voltage is used

(2) Secondary electrons are used

(3) High energy is used

(4) High radiations are used

80. Which of the following is not true ?

(1) Photoelectric emission is an instantaneous process

(2) Photoelectric emission do not takes place below threshold frequency

(3) The K.E. of the photoelectron depends on the wavelength of incident radiation

(4) Number of photoelectrons emitted is directly proportional to the intensity

SPACE FOR ROUGH WORK

PART – C

It consists of **81-180** Questions :

81. RAM is a

(1) Permanent memory
(2) Temporary memory
(3) Secondary memory
(4) Fixed memory

82. A special type of track formatting is present in

(1) Floppy disk
(2) Optical disk
(3) Hard disk
(4) Magnetic tape

83. User feed data into computer through

(1) Incoming data device
(2) Input device
(3) Output device
(4) Storage device

84. Common mouse actions

(1) Pointing and click
(2) Right click and double click
(3) Drag and drop
(4) All the above

85. Which one of these is not an optical scanner ?

(1) Optical character reader
(2) Optical mouse
(3) Optical mark reader
(4) Bar code reader

86. Data type in which whole numbers are stored in C ?

(1) Integer type
(2) Floating point type
(3) Character type
(4) Void type

SPACE FOR ROUGH WORK

87. Float amount;

Above statement in C specifies

(1) Variable name as amount

(2) Data type is float

(3) Float data has to be stored in amount

(4) All of the above

88. In C, relational operator not-equal-to is denoted by

(1) /= (2) != (3) ≠ (4) =!

89. In C, single character can be read using function

(1) getchar() (2) getcrl() (3) inchar() (4) putchar()

90. In C, what will be the output when the following segment is executed

```
char ch = a;
switch (ch)
{       case 'a' : printf ("A") ;
        case 'b' : printf ("B") ;
        default : printf ("C") ;
}
```

(1) A (2) B (3) C (4) ABC

91. Pop operation in stack remove an element from

(1) Bottom (2) Top

(3) Middle (4) Any where

92. Postfix form of (a + b)* (c – d) is

(1) abcd–+* (2) abcd+–*

(3) ab + cd–* (4) ab*cd+–

93. Data structure working on FCFS principle is

(1) Queue (2) Stack (3) List (4) Tree

SPACE FOR ROUGH WORK

94. Each node of singly linked list has
    (1) Two info and one ptr fields
    (2) One info and two ptr fields
    (3) Two info and two ptr fields
    (4) One info and one ptr fields

95. A linear list in which elements can be added or removed at either end but not in middle is
    (1) Queue (2) Dequeue
    (3) Stack (4) Tree

96. Method that is used if the channel has time slots with a slot-duration equal to or greater than the maximum propagation time
    (1) I-persistent (2) non-persistent
    (3) p-persistent (4) none of the above

97. The device that operates at all five layers
    (1) Bridge (2) Switch
    (3) Router (4) Gateway

98. The electromagnetic waves ranging in frequencies between 1GHz and 300 GHz
    (1) Radio waves
    (2) Micro waves
    (3) Infrared waves
    (4) Ultraviolet waves

99. VLAN technology divides a LAN into
    (1) Physical segments
    (2) Logical segments
    (3) Geographic segments
    (4) None of the above

SPACE FOR ROUGH WORK

100. In C++, an unary operator used to allocate memory

(1) malloc (2) calloc

(3) new (4) alloc

101. In C++, the class that helps in interfacing physical devices through buffer is

(1) Bufdevice (2) Bufferstream

(3) Buffer io (4) Streambuf

102. In C++, the function used specify a character that has to be filled in unused portion of a field

(1) unsetf() (2) complete()

(3) setf() (4) fill()

103. In C++, the function used to store data in binary form into a disk file is

(1) write() (2) read() (3) put() (4) get()

104. In C++, which of the following is correct template definition ?

(1) class <template T>

(2) template <T>

(3) template <class T>

(4) template class <T>

105. Which of the following inheritance is not supported in JAVA ?

(1) Multiple (2) Hierarchical

(3) Multilevel (4) Hybrid

106. The scheduling algorithm that partitions ready queue into several separate queues and allow the process to move between the queues

(1) Multi-level Queue Scheduling

(2) Multi-level Feedback Queue Scheduling

(3) Shortest Remaining Time first Scheduling

(4) SJF

SPACE FOR ROUGH WORK

107. Collection of processes on the disk waiting to be brought into memory for execution

(1) Job queue
(2) Device queue
(3) Input queue
(4) Ready queue

108. Method that allocates the largest hole available in the memory

(1) Best fit
(2) Worst fit
(3) First fit
(4) Correct fit

109. Memory protection is provided using

(1) Limit Register
(2) Relocation Register
(3) Index Register
(4) General Purpose Register

110. Data redundancy causes

(1) Duplication
(2) Wastage of space
(3) Both (1) and (2)
(4) None of the above

111. In PHP, the statement used to skip current iteration and continue execution of the remaining loop

(1) goto
(2) jump
(3) continue
(4) break

112. In PHP, function that is used to sort an array by its values

(1) ksort
(2) asort
(3) rsort
(4) psort

113. In PHP, how many parameters does preg_match function take ?

(1) 3
(2) 4
(3) 2
(4) Any number of parameters

SPACE FOR ROUGH WORK

114. In PHP, which of the following is valid ?

(1) include("table.inc");

(2) #include("table.inc")

(3) include(table.inc)

(4) all of the above

115. The computer that operates on measuring physical quantities is

(1) an analog computer

(2) a digital computer

(3) a super computer

(4) mainframe computer

116. Impression is formed by striking ink ribbon on to a paper

(1) Impact printer (2) Non impact printer

(3) Laser printer (4) Inkjet printer

117. In a plotter, paper is fixed on horizontal plane in

(1) Drum plotter (2) Flat bed plotter

(3) Both (1) and (2) (4) None of the above

118. In CRT, when Cathode gets heated it discharges

(1) Protons (2) Neutrons

(3) Electrons (4) Photons

119. Personal computer belongs to

(1) Dumb Terminal

(2) Smart Terminal

(3) Active Terminal

(4) Intelligent Terminal

SPACE FOR ROUGH WORK

120. After reduction, expression $A + ABC + BD + BD\overline{C}$ gives

(1) $A + BD$ (2) $A + B\overline{C}$

(3) $A + B + D$ (4) $A + BDC$

121. In C, comma is used as

(1) a delimiter (2) an operation (3) a separator (4) a terminator

122. Unconditional branching statement in C

(1) ternary operator (2) goto

(3) switch (4) if

123. In C, which of the following is not a loop statement ?

(1) while (2) do-while (3) for (4) if

124. In C, single dimensional array is declared as

(1) int a {5} ; (2) int a (5) ;

(3) int a [5] ; (4) int [5] a

125. Function strcpy() in C is used to

(1) copy string (2) compare strings

(3) concatenate strings (4) cut string

126. Number of pointer fields in anode of doubly linked list is

(1) 1 (2) 2 (3) 3 (4) 4

127. In a binary tree maximum number of off-springs each node can have

(1) 0 (2) 1 (3) 2 (4) 3

128. If a binary search tree is traversed to get sorted list then traverse is

(1) Preorder (2) Inorder

(3) Postorder (4) Vieworder

SPACE FOR ROUGH WORK

129. A node in a binary tree that has no descendent node is

(1) Tree (2) Branch

(3) Leaf (4) Root

130. This protocol allows a host to discover its internet address when it knows only its physical address

(1) ARP (2) RARP

(3) ICMP (4) IGMP

131. In C++, function operate in different ways depending on number and types of parameters is

(1) Function overloading

(2) Function prototype

(3) Function friend

(4) Function special

132. In C++, when the visibility of class member is not specified then they are

(1) Public (2) Private

(3) Protected (4) Extended

133. In C++, static data members of a class are initialized by default to

(1) Random value (2) Null

(3) 1 (4) Zero

134. In C++, a member function that has the same name as its class name is called

(1) Initializer (2) Constructor

(3) Destructor (4) Function

135. In C++, a special member function that destroys the objects created by constructor

(1) Destructor (2) Destroyer

(3) Deletor (4) Disturber

SPACE FOR ROUGH WORK

136. In which of the following state of a thread start() can be invoked ?

(1) New

(2) Blocked

(3) Runnable

(4) Running

137. The keyword used by packages in JAVA is

(1) Export

(2) Report

(3) Import

(4) Support

138. In JAVA if a thread has called sleep(), into which of the following states does it enter after sleep time expires

(1) Newborn

(2) Ready

(3) Wait

(4) Blocked

139. In JAVA, import statement must appear

(1) At the top of the file

(2) End of the file

(3) Middle of the file

(4) None of the above

140. A process entering a system is put into

(1) Job queue

(2) Ready queue

(3) Device queue

(4) Wait queue

141. The person who designs and implements the DBMS model and interfaces as a software package

(1) Tool developer

(2) Operator

(3) Maintenance personnel

(4) System designer

SPACE FOR ROUGH WORK

142. The person who implements the system specification as programs
   (1) Application programmer
   (2) System analyst
   (3) Tool developer
   (4) System designer

143. In XML, attributes that can form hierarchy
   (1) Simple
   (2) Atomic
   (3) Composite
   (4) Complex

144. In XML, entity types that do not have key attributes of their own
   (1) Regular entity type
   (2) Strong entity type
   (3) Weak entity type
   (4) Owner entity type

145. An XML tag and its contents together with closing tag is
   (1) ATTLIST
   (2) NOTATION
   (3) ENTITY
   (4) ELEMENT

146. CPU communicates with outside world through
   (1) input output unit
   (2) arithmetic logic unit
   (3) control unit
   (4) memory unit

147. Contents of memory is lost in case of power failure in
   (1) Non-volatile memory
   (2) Secondary memory
   (3) Volatile memory
   (4) Magnetic memory

SPACE FOR ROUGH WORK

148. Which one of these is not a data transfer operation ?

(1) Seek
(2) Translate
(3) Rotate
(4) Transfer

149. Device that allows data access sequentially is

(1) Optical disk
(2) Magnetic disk
(3) Magnetic tape
(4) All of the above

150. CD-ROM is a kind of

(1) Optical disk
(2) Magnetic disk
(3) Hard disk
(4) None of the above

151. X-NOR operation on variables A and B is denoted as

(1) $A \oplus B$
(2) A @ B
(3) $A \ominus B$
(4) A + B

152. In a half adder if inputs A = 1 and B = 1 then sum is

(1) 1 (2) 0 (3) 10 (4) 2

153. Which of the following is not true with a Flip-Flop ?

(1) Single bit memory element
(2) Latch
(3) Two bit adder
(4) Sequential circuit

154. Maximum number of flip-flops required for a synchronous decade counter

(1) 1 (2) 2 (3) 4 (4) 10

155. In C, identifier must not start with

(1) _
(2) lower case letter
(3) digit
(4) upper case letter

SPACE FOR ROUGH WORK

156. In C, structure members are accessed using operator

(1) * (2) →

(3) , (4) .

157. In C, pointer p is pointing to an integer array and if p is incremented once, then p increases by

(1) 1 byte (2) 2 bytes

(3) 4 bytes (4) 8 bytes

158. In C, self contained block of code that performs a particular task

(1) Block (2) Array

(3) Function (4) Structure

159. In C, which of the following is not a dynamic memory allocation function ?

(1) malloc() (2) calloc()

(3) alloc() (4) realloc()

160. Integer is a

(1) Primitive data type

(2) Non primitive data type

(3) User defined data type

(4) Derived data type

161. The most common UTP connector is

(1) RJ45 (2) BNC

(3) SC connector (4) ST connector

162. Which of these LANs use twisted-pair cables ?

(1) 10Base – 2 (2) 10Base – N

(3) 10Base – T (4) None of the above

SPACE FOR ROUGH WORK

163. The data transmission speed of CAT5 UTP cable is

(1) 2 Mbps
(2) 125 Mbps
(3) 6.00 Mbps
(4) 100 Mbps

164. In this unguided media, very high frequency signals are transmitted in straight lines directly from antenna to antenna

(1) Sky propagation
(2) Ground propagation
(3) Line-of-sight propagation
(4) Land propagation

165. The method in which the station sends the frame only at the beginning of the time slot

(1) Slotted ALOHA
(2) CSMA/CD
(3) CSMA/CA
(4) ALOHA

166. In C++, operator overloading function for unary operator will have _____ number of arguments.

(1) Zero
(2) 1
(3) 2
(4) None of the above

167. In C++, a derived class inherited by several base classes is

(1) Single inheritance
(2) Multiple inheritance
(3) Hybrid inheritance
(4) Multilevel inheritance

168. In C++, a public member inherited in private mode becomes _____ in derived class.

(1) Public
(2) Private
(3) Protected
(4) Friendly

SPACE FOR ROUGH WORK

169. In C++, a keyword used to represent an object that invokes its member function

(1) Invoke (2) That

(3) This (4) Their

170. In C++, a virtual function must be

(1) Member of some class (2) Constructor

(3) Static member (4) All of the above

171. The Medium-term scheduler is used for

(1) Context switching (2) Swapping

(3) Queuing (4) Job processing

172. If each process that wants to communicate must explicitly name the recipient or sender then it is called

(1) Direct communication

(2) Indirect communication

(3) Symmetric communication

(4) Asymmetric communication

173. Having some process running at all times in order to maximize CPU utilization is

(1) Multiprocessing

(2) Multiprogramming

(3) Time-sharing

(4) Distributed computing

174. The amount of time taken to start responding, but not to output the response is

(1) Waiting time

(2) Response time

(3) Turn around time

(4) Scheduling time

SPACE FOR ROUGH WORK

175. Which of these is not a preemptive scheduling algorithm ?

(1) FCFS
(2) SJF
(3) Priority scheduling
(4) RR

176. The collection of element and attribute name used in XML document is

(1) URI
(2) Namespace
(3) URL
(4) XHTML

177. In XML, the data type that can have attributes and other data types as elements

(1) Complex
(2) Simple
(3) Global
(4) Base

178. XML stands for

(1) eXtensible Markup Language
(2) eXtended Markup Language
(3) eXpandable Markup Language
(4) None of the above

179. All variable names in PHP begin with

(1) $
(2) #
(3) $$
(4) @

180. In PHP, function that returns the parameter with all whitespace characters removed from its end

(1) ltrim
(2) rtrim
(3) chop
(4) trim

SPACE FOR ROUGH WORK

A-3

GOVERNMENT OF KARNATAKA
KARNATAKA EXAMINATIONS AUTHORITY
DIPLOMA LATERAL ENTRY

SUBJECT: CS Qnver A3

Qnno	Ans	Qnno	Ans	Qnno	Ans	Qnno	Ans	Qnno	Ans	Qnno	Ans
1	2	31	3	61	1	91	2	121	13	151	3
2	3	32	4	62	4	92	3	122	2	152	2
3	G	33	1	63	3	93	1	123	4	153	3
4	3	34	2	64	3	94	4	124	3	154	3
5	3	35	G	65	3	95	2	125	1	155	3
6	2	36	3	66	1	96	3	126	2	156	4
7	3	37	2	67	4	97	4	127	3	157	2
8	4	38	3	68	2	98	2	128	2	158	3
9	2	39	1	69	3	99	2	129	3	159	3
10	4	40	1	70	2	100	3	130	2	160	1
11	1	41	1	71	4	101	4	131	1	161	1
12	4	42	4	72	2	102	4	132	2	162	3
13	3	43	2	73	4	103	1	133	4	163	4
14	3	44	1	74	4	104	3	134	2	164	3
15	2	45	4	75	4	105	14	135	1	165	1
16	4	46	3	76	3	106	2	136	1	166	1
17	4	47	2	77	2	107	3	137	3	167	2
18	1	48	1	78	4	108	2	138	3	168	2
19	2	49	3	79	1	109	2	139	1	169	3
20	1	50	2	80	3	110	3	140	1	170	1
21	1	51	1	81	2	111	3	141	4	171	2
22	2	52	1	82	2	112	2	142	1	172	1
23	3	53	1	83	2	113	3	143	3	173	2
24	14	54	4	84	4	114	1	144	3	174	2
25	G	55	4	85	2	115	1	145	4	175	1
26	3	56	4	86	1	116	1	146	1	176	2
27	2	57	1	87	4	117	2	147	3	177	1
28	4	58	2	88	2	118	3	148	2	178	1
29	1	59	3	89	1	119	4	149	3	179	1
30	1	60	1	90	G	120	1	150	1	180	23