DOs:

1. This question booklet is issued to you by the invigilator after the 2nd bell i.e., after 9.50 am.

2. Check whether the DCET Number has been entered and shaded in the respective circles on the OMR answer sheet.

3. The version code and serial number of this question booklet should be entered on the OMR answer sheet and the respective circles 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.

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 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 or start answering on the OMR answer sheet.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. In case of usage of signs and symbols in the questions, the regular textbook connotation should be considered unless stated otherwise.

2. This question booklet contains 180 (items) questions and each question will have one statement and four different options / responses & out of which you have to choose one correct answer.

3. After the 3rd Bell is rung at 10.00 am, remove the paper seal on the right hand side 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.

4. 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				ತಪ್ಪು ಕ್ರಮಗಳು WRONG METHOD							
CORRECT METHOD				⊗	Ⓑ	Ⓒ	Ⓓ	Ⓐ	Ⓑ	Ⓒ	⊘	Ⓐ	⬤	⬤	Ⓓ
Ⓐ	⬤	Ⓒ	Ⓓ	⬤	Ⓑ	Ⓒ	Ⓓ	Ⓐ	⬤	Ⓒ	Ⓓ

5. Please note that even a minute unintended ink dot on the OMR answer sheet will also be recognized and recorded by the scanner. Therefore, avoid multiple markings of any kind on the OMR answer sheet.

6. Use the space provided on each page of the question booklet for Rough Work. Do not use the OMR answer sheet for the same.

7. **Last bell will ring at 1.00 pm,** stop marking on the OMR answer sheet.

8. Hand over the **OMR answer sheet** to the room invigilator as it is.

9. After separating the top sheet (Office copy), the invigilator will return the bottom sheet replica (candidate's copy) to you to carry home for self-evaluation.

PART - A

APPLIED SCIENCE

1. Which of the following is the supplementary unit of SI System?

    (A) Candela   (B) Kelvin

    (C) Radian   (D) Mole

2. The main scale of Slide Calipers is divided into millimeter, the length of Vernier is 19 mm and is divided into 20 equal parts. The least count is

    (A) 0.01 cm   (B) 0.001 cm

    (C) 0.05 cm   (D) 0.005 cm

3. Which one of the following is not a vector quantity?

    (A) Velocity   (B) Acceleration

    (C) Speed   (D) Force

4. The magnitude of resultant of two forces $\vec{P}$ and $\vec{Q}$ acting in the same line and in opposite direction is

    (A) $P + Q$ (B) $P - Q$

    (C) $\dfrac{P}{Q}$ (D) $\dfrac{Q}{P}$

5. Two forces 3N and 5N are acting at a point making an angle of 60°. The magnitude of the resultant is

    (A) 15 N   (B) 2 N

    (C) 7 N   (D) 8 N

6. Torque produces

    (A) rotational motion   (B) linear motion

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

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Space For Rough Work

7. Which one of the following is not related to couple?

    (A) Kicking of football

    (B) Opening and closing of tap

    (C) Rotation of steering wheel

    (D) Pedalling of bicycle

8. Within elastic limit, stress is

    (A) independent of strain

    (B) zero

    (C) directly proportional to strain

    (D) inversely proportional to strain

9. The length of a wire increases by 1% on suspending a load of 2 N from it. The tensile strain in the wire is

    (A) 0.01

    (B) 0.5

    (C) 2

    (D) 1

10. Pressure at any point inside a liquid

    (A) remains zero

    (B) increases with depth

    (C) decreases with depth

    (D) independent of depth

11. The pressure at the bottom of a swimming pool 20m wide and the water 2m deep (given density of water 1000 Kg/m^3 and g = 10 m/s^2) is

    (A) 2×10^3 Pa

    (B) 40×10^3 Pa

    (C) 10×10^3 Pa

    (D) 20×10^3 Pa

12. In the case of liquids, as the temperature increases, the surface tension generally

    (A) remains constant

    (B) decreases

    (C) increases

    (D) zero

Space For Rough Work

13. The property of a liquid to oppose the relative motion between different layers is called

(A) density   (B) elasticity

(C) viscosity   (D) capillarity

14. An expression for coefficient of viscosity is (if F = viscous force; A = Area, V = difference in Velocity, x = distance between two layers)

(A) $\eta = -\dfrac{FA}{xV}$ (B) $\eta = -\dfrac{FV}{Ax}$

(C) $\eta = -\dfrac{Fx}{AV}$ (D) $\eta = -\dfrac{FxA}{V}$

15. The expression that represents Charle's law is

(A) PV = constant   (B) VT = constant

(C) $\dfrac{P}{V}$ = constant   (D) $\dfrac{V}{T}$ = constant

16. The pressure of a gas at 27°C is one atmospheric pressure. Keeping the volume constant, if the temperature is raised to 60°C, then its pressure will be

(A) 1.11 atmospheric pressure   (B) 1.5 atmospheric pressure

(C) 2.2 atmospheric pressure   (D) 2 atmospheric pressure

17. Hot water at 80°C will exchange heat with surroundings maintained at 25°C till the temperature of water becomes

(A) 80°C   (B) 50°C

(C) 55°C   (D) 25°C

18. Radiator in automobiles works on the principle of

(A) Conduction   (B) Convection

(C) Radiation   (D) Evaporation

Space For Rough Work

19. In the expression $C_p - C_v = R$, notation R represents

    (A) Resultant force

    (B) Planck's constant

    (C) Universal gas constant

    (D) Resonance

20. Physical quantity that represents the energy of the mechanical wave is

    (A) Wave length

    (B) Frequency

    (C) Amplitude

    (D) Wave period

21. Which one of the following is not an example of simple harmonic motion?

    (A) Swinging of cradle

    (B) Oscillations of simple pendulum

    (C) Vibrations of tuning fork

    (D) Motion of hands of clock

22. In the equation for velocity of sound in air, which of the following options does not hold good according to Laplace?

    (A) Poor conductivity of air

    (B) Rapid pressure changes

    (C) Maintaining constant temperature

    (D) Rise and fall of temperature

23. Distance between two consecutive nodes in a stationary wave is equal to

    (A) Wavelength of individual wave

    (B) Difference of wavelengths of two waves

    (C) Sum of wavelengths of two waves

    (D) Half of wavelength of individual wave

24. When the tension on the sonometer wire is increased by 15 N, its frequency is doubled. The original tension is

    (A) Zero

    (B) 5 N

    (C) 10 N

    (D) 15 N

Space For Rough Work

25. Two identical waves superpose on one another, then the beat frequency is

    (A) Zero   (B) One

    (C) Ten   (D) Infinity

26. Damage to the suspension bridge by marching military troops is due to

    (A) Reverberation   (B) Resonance

    (C) Beats   (D) Noise

27. A tuning fork produces waves in a medium. The parameter that changes with temperature of the medium is

    (A) Wavelength   (B) Frequency

    (C) Amplitude   (D) Period

28. The electromagnetic radiation used to detect the artificial gems from the original gems is

    (A) Microwave   (B) Radio wave

    (C) Ultraviolet ray (UV ray)   (D) X-ray

29. During excitation of an atom from ground state to excited state, the number of photons absorbed by the single atom is

    (A) 2   (B) 1

    (C) 3   (D) 0

30. In Nano-technology, the manipulation of atom is done in the range of

    (A) 1 nano meter – 100 nano meter   (B) 1 micro meter – 100 micro meter

    (C) 1 pico meter – 100 pico meter   (D) 1 millimeter – 100 millimeter

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Space For Rough Work

31. Live telecast of a programme can be viewed by

   (A) Manual communication   (B) X-ray communication

   (C) Landline communication   (D) Satellite communication

32. Optical Fibre is used in

   (A) Endoscopy   (B) Biometric Machine

   (C) Simple Microscope   (D) Simple Telescope

33. Acetic acid is an example for

   (A) Strong Electrolyte   (B) Neutral Solution

   (C) Weak Electrolyte   (D) Non-Electrolyte

34. The process of coating tin over iron and steel is known as

   (A) Alloying   (B) Galvanizing

   (C) Tinning   (D) Refining

35. The batteries which are recharged and reused are called

   (A) Primary Battery   (B) Secondary Battery

   (C) Fuel Cell   (D) Alkaline Battery

Space For Rough Work

36. PAFC is a type of

   (A) Primary Cell   (B) Secondary Cell

   (C) Solar Cell   (D) Fuel Cell

37. The easily fusible material which is formed when Flux reacts with gangue is

   (A) Slag   (B) Alloy

   (C) Polymer   (D) Mineral

38. Which of the below given polymers is obtained by condensation polymerization?

   (A) Poly ethene   (B) Nylon

   (C) PVC   (D) Poly propane

39. Which of the following is not a composite material?

   (A) Fibreglass   (B) Concrete

   (C) Ceramic   (D) Bronze

40. The pH value of Lemon juice is about

   (A) 2.4   (B) 8.2

   (C) 10.2   (D) 14

Space For Rough Work

PART – B

ENGINEERING MATHEMATICS

41. The value of $\begin{vmatrix} \cos 50° & \sin 10° \\ \sin 50° & \cos 10° \end{vmatrix}$ is

    (A) $\dfrac{1}{\sqrt{2}}$

    (B) $\dfrac{\sqrt{3}}{2}$

    (C) $\dfrac{-1}{2}$

    (D) $\dfrac{1}{2}$

42. The values of x & y from the simultaneous equations $3x + 4y = 7$ and $7x - y = 6$ are.

    (A) x = 1, y = 1

    (B) x = –1, y = –1

    (C) x = 1, y = – 1

    (D) x = –1, y = 1

43. If $\begin{vmatrix} x & 3 \\ 3 & x \end{vmatrix} = 0$ then the value of x is

    (A) ± 1

    (B) ± 3

    (C) ± 9

    (D) $\pm \sqrt{6}$

44. If $A = \begin{bmatrix} -1 & 3 \\ 4 & -5 \end{bmatrix}$, then $2A^T$ is

    (A) $\begin{bmatrix} -2 & 6 \\ 8 & -10 \end{bmatrix}$

    (B) $\begin{bmatrix} -1 & 4 \\ 3 & -5 \end{bmatrix}$

    (C) $\begin{bmatrix} -2 & 8 \\ 6 & 8 \end{bmatrix}$

    (D) $\begin{bmatrix} -2 & 8 \\ 6 & -10 \end{bmatrix}$

Space For Rough Work

TX

A1

45. If A is a given square Matrix then

(A) $\text{adj } A = \dfrac{A^{-1}}{|A|}$

(B) $\text{adj } A = \dfrac{|A|}{|A^{-1}|}$

(C) $\text{adj } A = |A| . A^{-1}$

(D) $AA^{-1} = \text{adj } A . |A|$

46. The characteristic Equation of the Matrix $A = \begin{bmatrix} -5 & 6 \\ -2 & 1 \end{bmatrix}$ is

(A) $\lambda^2 - 6\lambda + 12 = 0$

(B) $\lambda^2 - 4\lambda + 17 = 0$

(C) $\lambda^2 + 4\lambda + 7 = 0$

(D) $\lambda^2 - 4\lambda + 7 = 0$

47. The unit vector in the direction of $\vec{a} = 3i + 4j - 2k$ is

(A) $\hat{a} = \dfrac{3i + 4j - 2k}{\sqrt{26}}$

(B) $\hat{a} = \dfrac{3i + 4j - 2k}{\sqrt{29}}$

(C) $\hat{a} = i + j - 2k$

(D) $\hat{a} = \dfrac{3i + 4j - 2K}{\sqrt{21}}$

48. If $\vec{a} = i + \lambda j$ and $\vec{b} = 2j + 3k$ and $\vec{a} . \vec{b} = 0$ then 'λ' is Equal to

(A) $\dfrac{-2}{3}$

(B) $\dfrac{2}{3}$

(C) $\dfrac{3}{2}$

(D) 0

49. Area of the triangle whose adjacent sides are $\vec{a} = 2i - j + 2k$ and $\vec{b} = 3i - j$ is

(A) $\sqrt{41}$ sq.units

(B) $\dfrac{\sqrt{41}}{2}$ sq.units

(C) $\dfrac{3}{2}$ sq. units

(D) $\dfrac{\sqrt{65}}{2}$ sq.units

Space For Rough Work

50. The number of possible outcomes in the sample space when two dice of different colours are rolled is

    (A) 36   (B) 6

    (C) 9   (D) 12

51. Sin θ is positive and tan θ is negative when θ is in

    (A) I quadrant   (B) II quadrant

    (C) III quadrant   (D) IV quadrant

52. The value of

    $$\frac{\tan\ (\pi - \alpha)}{\tan\ (-\alpha)} + \frac{\cos\ (\pi/2 - \alpha)}{\sin\ (2\pi - \alpha)} + \frac{\csc\left(\dfrac{3\pi}{2} + \alpha\right)}{\sec\ (\pi + \alpha)}\ \text{is}$$

    (A) -1 (B) 2

    (C) -2 (D) 1

53. The value of sin (105°) is

    (A) $\dfrac{\sqrt{3}+1}{2\sqrt{2}}$ (B) $\dfrac{\sqrt{3}-1}{2\sqrt{2}}$

    (C) $\dfrac{1-\sqrt{3}}{2\sqrt{2}}$ (D) $\dfrac{\sqrt{3}}{2\sqrt{2}}$

54. The value of $\dfrac{1-\cos A + \sin A}{1+\cos A + \sin A}$ is

    (A) $\tan A$ (B) $\tan \left(A/2\right)$

    (C) $\cot \left(A/2\right)$ (D) $\cot A$

55. If sin A = $\dfrac{1}{3}$, then the value of sin 3A is

    (A) $-3/27$ (B) 1

    (C) $\dfrac{-4}{27}$ (D) $\dfrac{23}{27}$

Space For Rough Work

56. The value of 2 cos 3A . sin 2A is

(A) sin 5A + sin A

(B) cos 5A + cos A

(C) sin 5A − sin A

(D) cos 5A − cos A

57. The polar form of 1 + i is

(A) $\sqrt{2}\left[\cos\dfrac{\pi}{4} + i\sin\dfrac{\pi}{4}\right]$

(B) $\sqrt{2}\left[\cos\dfrac{\pi}{4} - i\sin\dfrac{\pi}{4}\right]$

(C) $\sqrt{2}\left[\sin\dfrac{\pi}{4} + i\cos\dfrac{\pi}{4}\right]$

(D) $\sqrt{2}\left[-\cos\dfrac{\pi}{4} - i\sin\dfrac{\pi}{4}\right]$

58. $\displaystyle\lim_{x \to -3} \dfrac{x^2 - 5x + 6}{x^2 - 3x} =$

(A) $\dfrac{-5}{3}$

(B) $\dfrac{1}{3}$

(C) $\dfrac{-1}{3}$

(D) $\dfrac{5}{3}$

59. $\displaystyle\lim_{x \to a} \dfrac{\sqrt{x^3} - \sqrt{a^3}}{x - a} =$

(A) $\dfrac{3}{2}\sqrt{a}$

(B) $\dfrac{3}{2\sqrt{a}}$

(C) $\sqrt{a}$

(D) $\dfrac{1}{\sqrt{a}}$

60. $\displaystyle\lim_{\theta \to 0} \dfrac{\cos 3\theta - \cos \theta}{\theta \sin 2\theta} =$

(A) $\tan 2\theta$

(B) 2

(C) −2

(D) 1

Space For Rough Work

61. Equation of the straight line passing through the point (1, 3) and having slope – 2 is

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

(B) $x + 2y + 5 = 0$

(C) $x - 2y - 5 = 0$

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

62. Equation of the straight line passing through the origin and perpendicular to the line $5x - 4y - 1 = 0$ is

(A) $5x - 4y = 0$

(B) $4x + 5y = 0$

(C) $5x - 4y + 1 = 0$

(D) $4x + 5y + 1 = 0$

63. If $y = \dfrac{x^2 - 5}{x^2 + 3}$, then $\dfrac{dy}{dx} =$

(A) $\dfrac{4x^3 - 4x}{(x^2 + 3)^2}$

(B) $\dfrac{16x}{(x^2 + 3)^2}$

(C) $\dfrac{4x}{(x^2 + 3)^2}$

(D) $\dfrac{-16x}{(x^2 + 3)^2}$

64. If $y = \sin^{-1}(\cos x)$, then $\dfrac{dy}{dx} =$

(A) $\dfrac{1}{\sqrt{1 - x^2}}$

(B) $\dfrac{-\sin x}{\sqrt{1 - x^2}}$

(C) 1

(D) -1

65. If $y = \sqrt{y \log x}$, then $\dfrac{dy}{dx} =$

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

(B) $\dfrac{1}{x}$

(C) $\dfrac{1}{x(1 - 2y)}$

(D) $\dfrac{1}{xy}$

Space For Rough Work

66. If $x = a \cos^2\theta$ and $y = b \sin^3\theta$, then $\dfrac{dy}{dx} =$

(A) $-\dfrac{3b}{2a} \sin\theta$

(B) $-\dfrac{3b}{2a}$

(C) $\dfrac{2a}{b} \cos\theta$

(D) $\dfrac{-2a}{3b\sin\theta}$

67. If $y = x^y$, then $\dfrac{dy}{dx}$

(A) $\dfrac{y^2}{x(1-\log x)}$

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

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

(D) $\dfrac{y^2}{x(1+\log x)}$

68. If $y = \sin^2 x$, then $\dfrac{d^2y}{dx^2} =$

(A) $2 \cos 2x$

(B) $2 \sin 2x$

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

(D) $2x \sin x$

69. The Equation of tangent to the curve $y = \sin x$ at the point $(\pi, 0)$ is

(A) $x + y + 1 = 0$

(B) $x - y - 1 = 0$

(C) $x + y - \pi = 0.$

(D) $x - y + \pi = 0.$

70. The rate of change of radius of the sphere is 9cm/s. Then the rate of change of volume of the sphere when the radius is 2 cm is equal to

(A) 144π cm^3/s

(B) 9π cm^3/s

(C) 56π cm^3/s

(D) 64π cm^3/s

Space For Rough Work

71. $\int \dfrac{1}{1 + \cos x}\, dx =$

(A) $\tan x + \sec x + c$ (B) $\tan x - \sec x + c$

(C) $-\cot x + \operatorname{cosec} x + c$ (D) $\cot x - \operatorname{cosec} x + c$

72. $\int \left(\sqrt{x} + \cot x \right) dx =$

(A) $\dfrac{2}{3} x^{3/2} + \log \sin x + c$ (B) $\dfrac{3}{2} x^{2/3} + \log \sec c\, x + c$

(C) $\dfrac{2}{3} x^{3/2} - \log \sin x + c$ (D) $\dfrac{3}{2} x^{2/3} - \log \sec x + c$

73. $\int \dfrac{e^{\log x}}{x}\, dx =$

(A) $e^x + c$ (B) $\log (e^x) + c$

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

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

(A) $x \log x + x + c$ (B) $x \log x - x + c$

(C) $x + \log x + c$ (D) $x - \log x + c$

75. $\int \dfrac{x}{\sqrt{1 + x^2}}\, dx =$

(A) $\sqrt{1 + x^2} + c$ (B) $\sqrt{1 - x^2} + c$

(C) $\dfrac{1}{\sqrt{1 + x^2}} + c$ (D) $\dfrac{1}{\sqrt{1 - x^2}} + c$

Space For Rough Work

76. $\int_{-2}^{1} (x + 1)(x - 1)\, dx =$

(A) 0

(B) 1

(C) – 1

(D) – 2

77. The area bounded by the curve $y = \sin^2 x$, the x–axis and the ordinates $x = 0$ and $x = \pi/2$ is

(A) $\dfrac{\pi}{4}$ sq. units

(B) $\dfrac{\pi}{2}$ sq. units

(C) $\dfrac{\pi}{3}$ sq. units

(D) $\dfrac{\pi}{6}$ sq. units

78. The order and degree of a differential equation $4\left(\dfrac{dy}{dx}\right)^3 + 8\,xy + \left(\dfrac{d^2 y}{dx^2}\right)^2 - 7 = 0$ respectively are

(A) 1 and 3

(B) 2 and 2

(C) 2 and 3

(D) 2 and 1

79. The differential equation formed from the equation $y^2 = 4ax$ by eliminating arbitrary constant is

(A) $2x\dfrac{dy}{dx} - y = 0$

(B) $2x\dfrac{dy}{dx} + y = 0$

(C) $y\dfrac{dy}{dx} - 2x = 0$

(D) $y\dfrac{dy}{dx} + 2x = 0$

80. For the differential equation $\dfrac{dy}{dx} + (\tan x).\, y = \cos x$, the integrating factor is

(A) $\log x$

(B) $\cot x$

(C) $\operatorname{cosec} x$

(D) $\sec x$

Space For Rough Work

PART – C
TEXTILE TECHNOLOGY

81. Which of the following is seed fibre?

(A) Silk

(B) Wool

(C) Kapok

(D) Jute

82. Sequential steps of addition polymerisation are

(A) Initiation, termination and propagation

(B) Initiation, propagation and termination

(C) Propagation, initiation and termination

(D) Initiation, condensation and termination

83. Match the following:

Fibre		Process	
(i)	Cotton	a	Degumming
(ii)	Wool	b	Washing
(iii)	Silk	c	Mercerisation

(A) (i) - a, (ii) - b, (iii) - c

(B) (i) - b, (ii) - a, (iii) - c

(C) (i) - c, (ii) - b, (iii) - a

(D) (i) - b, (ii) - c, (iii) - a

84. Which of the following soil is suitable for cotton cultivation?

(A) Black soil

(B) Alluvial soil

(C) Sandy soil

(D) Loamy soil

85. Fish surface like fibre is

(A) Wool

(B) Silk

(C) Acrylic

(D) Jute

86. The density of cotton fibre is

(A) 0.9 g/cc

(B) 1.113 g/cc

(C) 1.38 g/cc

(D) 1.52 g/cc

Space For Rough Work

87. The main chemical substance present in silk is

    (A) Keratin   (B) Cellulose

    (C) Fibroin   (D) Ketone

88. Which of the following fibre is produced from Caprolactam?

    (A) Polyester   (B) Nylon 6

    (C) Polyethylene   (D) Acrylic

89. Which of the following is high performance fibre?

    (A) Carbon   (B) Kevlar

    (C) Nomex   (D) All of these

90. The melting point of polyester is

    (A) $120°C$ (B) $180°C$

    (C) $260°C$ (D) $380°C$

91. 'Xanthation step' associated manufacturing process of fibre is

    (A) Viscose rayon   (B) Acetate rayon

    (C) Polyester   (D) Acrylic

92. Benzene ring containing structure is

    (A) Nylon 6   (B) Nylon 66

    (C) Polyester   (D) Polyethylene

93. Which of the following fibre has least elongation at break?

    (A) Cotton   (B) Jute

    (C) Silk   (D) Wool

Space For Rough Work

94. The process of separation of fibre and seed is

   (A) Retting
   (B) Ginning
   (C) Carding
   (D) Gilling

95. Which of the following is ginning machine?

   (A) Automixer
   (B) Monocylinder
   (C) Macarthy
   (D) Blendomat

96. Which machine is termed as 'Heart of spinning'?

   (A) Card
   (B) Draw frame
   (C) Roving frame
   (D) Ring frame

97. The type of 'creel' used in Roving frame is

   (A) Umbrella creel .
   (B) V-creel
   (C) C-creel
   (D) S-creel

98. The machine which has 'differential motion' mechanism is

   (A) Card
   (B) Speed frame
   (C) Comber
   (D) Modern Draw frame

99. The usefulness of twist in 'Speed frame' is

   (A) To increase strength of yarn
   (B) To reduce the strength of yarn
   (C) To reduce breaks at flyer winding
   (D) To increase the speed of flyer

Space For Rough Work

100. The 'modern beater' used in blowroom is

   (A) Step cleaner
   (B) Vertical opener
   (C) 2-Bladed beater
   (D) Porcupine beater

101. Doubling is a feature of

   (A) Ring frame
   (B) Draw framew
   (C) Rotor spinning
   (D) Airjet spinning

102. Friction Spinning system is

   (A) Vertex
   (B) Rotor
   (C) Repco
   (D) DREF

103. Increasing order of diameters of parts in card is

   (A) Licker-in < cylinder < Doffer
   (B) Licker-in < Doffer < Cylinder
   (C) Cylinder < Doffer < Licker-in
   (D) Doffer < Licker-in < Cylinder

104. The nep removing machine is

   (A) Step cleaner
   (B) Card
   (C) Draw frame
   (D) Scutcher

105. Which of the following is not a character of Traveller?

   (A) Generate little heat
   (B) Very hard
   (C) Elastic
   (D) Wear-resistant

106. ISO New Standard for traveller number is

   (A) grams/10 travellers
   (B) grams/100 travellers
   (C) grams/500 travellers
   (D) grams/1000 travellers

Space For Rough Work

107. In which loom, torsion bar mechanism is used?

    (A) Airjet loom   (B) Projectile loom

    (C) Waterjet loom   (D) Rapier loom

108. Loose form of yarn wound in a package known as

    (A) Cone   (B) Cheese

    (C) Hank   (D) All of these

109. The device which removes the slubs on the yarn during winding is

    (A) Slub catcher   (B) Traversing device

    (C) Tensioner   (D) Guide Roller

110. Which creel is called as modified rectangular creel?

    (A) V-creel   (B) U-creel

    (C) Umbrella creel   (D) Magazine creel

111. In the following Beam warping package fault is

    (A) Lapped ends   (B) Patterning

    (C) Soft Nose   (D) Stitching

112. During pirn winding, if thread breaks, to stop the machine _____ is used.

    (A) Warp stop motion   (B) Weft stop motion

    (C) Break Thread stop motion   (D) All of these

113. In sizing, mutton tallow is used as a

    (A) Antiseptics   (B) Softners and lubricants

    (C) Deliquescent   (D) Weighting agent

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114. In shedding warp threads form stationary top and bottom lines to form _____ shed

(A) Semi-open shed

(B) Bottom closed shed

(C) Center closed shed

(D) Fully open shed

115. During weaving, if the pick is inserted in the shed, when it is not sufficiently opened is called

(A) Late picking

(B) Weak pick

(C) Early pick

(D) Harsh pick

116. In weaving process, forward and backward velocity of sley is not same and is termed as _____

(A) Variable speed

(B) High speed

(C) Equal speed

(D) Low speed

117. Confusers are used in which loom?

(A) Waterjet loom

(B) Airjet loom

(C) Sulzer

(D) Raiper loom

118. Where grippers are used?

(A) Projectile loom

(B) Jacquard loom

(C) Dobby loom

(D) Waterjet loom

119. The number of hanks, each 560 yards long, which weights 1 lb is

(A) Denier System

(B) Tex System

(C) Worsted System

(D) Cotton System

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120. To convert Denier to Cotton count, which of the following constant is used?

    (A) 560   (B) 5315

    (C) 590.5   (D) 7972

121. Cheese Cloth and Butter muslins are

    (A) Light weight clothes   (B) Medium weight clothes

    (C) Heavy weight clothes   (D) Lustrous clothes

122. The warp and weft coverfactors of 7-11 is found in

    (A) Boot linings   (B) Overcoat fabrics

    (C) Duck clothes   (D) Voile fabrics

123. Which of the following cloth has greater resistance to tearing?

    (A) Matt cloth   (B) Weft rib cloth

    (C) Plain cloth   (D) Cheese cloth

124. The removal of hardness of water process is

    (A) Bleaching   (B) Souring

    (C) Softening   (D) Dyeing

125. Which preparatory process is must for fabric going for printing?

    (A) Damping   (B) Singeing

    (C) Calendering   (D) Sanforising

126. The cheapest process of desizing is

    (A) Enzyme desizing   (B) Rot desizing

    (C) Acid desizing   (D) Bromite desizing

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127. The presence of Chloramine in hypochlorite bleached fabric causes

   (A) Whiteness

   (B) Blackishness

   (C) Yellowness

   (D) Bluishness

128. The medium used to store hydrogen peroxide is

   (A) Alkaline media

   (B) Acidic media

   (C) Neutral media

   (D) Highly alkaline media

129. The dye pickup is minimum in cotton fabric with

   (A) Grey

   (B) Desized

   (C) Bleached

   (D) Mercerised

130. During scouring, unsaponifiable oil is removed by

   (A) Saponification

   (B) Emulsification

   (C) Esterification

   (D) Diazotisation

131. Direct dyes are also called as

   (A) Metal colours

   (B) Salt colours

   (C) Acid colours

   (D) Basic colours

132. The cold brand reactive dyes are

   (A) Mono chloro triazine

   (B) Dicholro triazine

   (C) Vinyl sulphone

   (D) Disperse

133. The conversion of vat dyes into leuco vat dye is

   (A) Mordanting

   (B) Tinting

   (C) Vatting

   (D) Anchoring

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134. During diazotisation, which elements are put in the structure of base?

(A) Carbon atom

(B) Sulphur atoms

(C) Nitrogen atoms

(D) Nickel atoms

135. The deep dark shades are dyed on polyester by

(A) Carrier method

(B) Thermosol method

(C) HT HP method

(D) Open boiling method

136. During Reactive colour printing paste preparation, the alkali added is

(A) Sodium hydroxide

(B) Sodium bicarbonate

(C) Sodium sulphide

(D) Sodium hydrosulphite

137. The permanent mechanical finish is

(A) Calendering

(B) Raising

(C) Starch finish

(D) Soft finish

138. The purpose of acetic acid treatment on silk fabric is

(A) Rot proof finish

(B) Fire proof finish

(C) Scroop finish

(D) Antistatic finish

139. The acid liberating salt

(A) Sodium sulfate

(B) Ammonium sulfate

(C) Sodium carbonate

(D) Magnesium sulfate

140. Which are the mechanical finishing treatments?

(A) Embossing

(B) Glazing

(C) Sanforising

(D) All of these

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141. Whole bulk of material available for testing is known as

(A) Population

(B) Random sample

(C) Biased sample

(D) Large sample

142. The relative humidity is measured by

(A) Fibrograph

(B) Shirley moisture meter

(C) Hygrometer

(D) Conditioning oven

143. The relationship between Moisture Regian (R) and Moisture Content (M) is

(A) $R = \dfrac{100M}{100 + M}$

(B) $R = \dfrac{100M}{100 - M}$

(C) $R = \dfrac{100 + M}{100M}$

(D) $R = \dfrac{100 - M}{100 + M}$

144. Array diagram is obtained from the instrument

(A) Comb sorter

(B) Fibrograph

(C) Uster stapler

(D) Digital Fibrograph

145. Wheatstone network principle is used in

(A) Fibrograph

(B) Micronaire

(C) WIRA meter

(D) Arealometer

146. The maturity ratio equation is

(A) $\dfrac{N - D}{100} + 0.7$

(B) $\dfrac{N - D}{200} + 0.7$

(C) $\dfrac{100}{N - D} + 0.7$

(D) $\dfrac{200}{N - D} + 0.7$

where N = % Normal Fibre, D = % Dead Fibres.

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147. The statement which is not correct about stelometer is

   (A) It works pendulum lever principle

   (B) It measures fibre bundle strength

   (C) The method of loading is CRE.

   (D) It derives its name from strength and elongation

148. The meaning of 10 Ne is

   (A) 840 yds / gram   (B) 840 yds / lb

   (C) 8400 yds / lb   (D) 8400 yds / Kg

149. The property affected by twist in yarn is

   (A) Fabric handle   (B) Fabric appearance

   (C) Fabric strength   (D) All of the above

150. Spectrogram is an additional attachment used in

   (A) Micronaire   (B) Instron

   (C) Uster evenness tester   (D) Lea tester

151. 'Z' significant test table value at 95% confidence level is

   (A) 1.96   (B) 2.9

   (C) 3.0   (D) 3.3

152. Air permeability is maximum for

   (A) Mockleno weave   (B) Plain weave

   (C) Twill weave   (D) Satin weave

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153. The drape coefficient equation is

(A) $F = \dfrac{W_s - W_d}{W_D - W_d}$

(B) $F = \dfrac{W_s + W_d}{W_D + W_d}$

(C) $F = \dfrac{W_D - W_d}{W_s - W_d}$

(D) $F = \dfrac{W_s + W_d}{W_D - W_d}$

154. Wrinkle recovery will be excellent for

(A) Cotton fabric

(B) Woollen fabric

(C) Jute fabric

(D) Viscose fabric

155. The value which divides the series into two halves is

(A) Median

(B) Model value

(C) Arithmatic Mean

(D) Geometric Mean

156. Upper limit of $\bar{x}$ chart is

(A) $\bar{x} - 3\sigma$

(B) $\bar{x} + 3\sigma$

(C) $\bar{x} + 1.2\sigma$

(D) $\bar{x} - 1.2\sigma$

157. In which fastness testing of fabric, salt is used in the experiment?

(A) Rubbing fastness

(B) Wash fastness

(C) Perspiration fastness

(D) Light fastness

158. When Fashion is constant or longlasting, then it is called as

(A) Fashion trend

(B) Fashion Forecasting

(C) Style

(D) Basic or classic

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159. Which of the follownig is not a requirement of Quality in cutting?

(A) Freedom of Knife movement

(B) Pattern count

(C) Correct Bundling

(D) Correct Labelling

160. 'Hand shears' are associated with

(A) Fusing

(B) Cutting

(C) Moulding

(D) Welding

161. Which of the following standards divides stitched seams into 8 classes?

(A) American

(B) European

(C) Chinese

(D) British

162. Which of the following is not a sewing aid?

(A) Loop Fastenings

(B) Guides

(C) Folders

(D) Jigs

163. Which of the following garments require extensive underpressing?

(A) Stretch Dancewear

(B) Slips and Nightgowns

(C) Stretch Swimwear

(D) Waist coats

164. Line planning, Line concept and Line development are associated with

(A) Production planning

(B) Product dimension

(C) Merchandising strategies

(D) Line sheets

165. The 'GINETEX' care labelling system is also known as

(A) International care labelling system

(B) Canadian care labelling system

(C) Chinese care labelling system

(D) German care labelling system

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166. The 4-point and 10-point fabric inspection systems are not sensitive to the

    (A) length of the fabric inspected   (B) Width of the fabric inspected

    (C) Weight of the fabric inspected   (D) Depth of the fabric inspected

167. 'Proto type' sample is the

    (A) Final sample   (B) Preproduction sample

    (C) First sample   (D) Marker sample

168. Which of the following is weft knit fabric?

    (A) Plain Jersey   (B) Rib

    (C) Interlock   (D) All of these

169. The vertical set of the loops in Knit fabric is termed as

    (A) Course   (B) Wale

    (C) Stitch   (D) loops

170. The movements of guide bars in warp knitting are

    (A) Swinging and shaking   (B) Shaking and shagging

    (C) Shagging and swinging   (D) Twisting and bending

171. Supervisors and Foreman belong to

    (A) Top level management   (B) Middle level management

    (C) Lower level management   (D) Top and middle level management

172. The process of making choice is known as

    (A) Planning   (B) Organizing

    (C) Leadership   (D) Decision-making

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173. Who proposed two-factor theory of motivation?

(A) F.W. Taylor   (B) Henry Fayol

(C) F. Herzberg   (D) A. Maslow

174. The management of humans, material and machines is known as

(A) Quality Control   (B) Total Quality Control

(C) Total Quality Management   (D) Total Management

175. The process of communication is complete with the stage of

(A) Encoding   (B) Decoding

(C) Receiving   (D) Feedback

176. Which of the following is not internal source of recruitment?

(A) Promotion   (B) Transfers

(C) Employee referrals   (D) Employment exchange

177. Which of the following is 'on job training' method?

(A) Veritable training   (B) Role playing

(C) Simulation   (D) Business games

178. The core human value is

(A) Right conduct   (B) Peace

(C) Truth   (D) All of the above

179. The word which refers to morals, value and beliefs of the Individual is

(A) Ethics   (B) Morality

(C) Integrity   (D) Personality

180. 'What is safety'? Is an example for

(A) Conceptual Inquiry   (B) Normative Inquiry

(C) Factual Inquiry   (D) Statistical Inquiry

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A1