TEST - 2015

CR	COURSE	DAY : SUNDAY
	CERAMICS TECHNOLOGY	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 – 4	190008

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 09.50 a.m.**
3. The 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 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 10.00 a.m., till then;**
   - Do not remove the paper seal 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 a.m.** 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 acomplete 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.
   - **Completed darken / shade the relevant circle with a BLUE OR BLACK INK BALL POINT 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 Bells is rung at 1.00 p.m.** 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, 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.**

PART - A
APPLIED SCIENCE

1. In the spectrum of scattered light the lines corresponding to wavelength greater than that of incident light are called

    1. Stokes lines
    2. Antistokes lines
    3. Fluorescent lines
    4. Incident lines

2. Resolving power of telescope is given by

    1. $\dfrac{d}{1.22\lambda}$
    2. $\dfrac{1.22\lambda}{d}$
    3. $\dfrac{1.22d}{\lambda}$
    4. $\dfrac{\lambda}{1.22d}$

3. To observe diffraction pattern the obstacle should be

    1. Very big
    2. Dark
    3. Absent
    4. Comparable with the wavelength of light

4. When double refraction occurs, extraordinary ray and ordinary rays will have vibrations in the planes _____ to one another

    1. Parallel   2. Independent   3. Perpendicular   4. At 45°

5. Maxwell's electromagnetic theory could explain

    1. Photo electric effect
    2. Interference of light
    3. Compton effect
    4. Black body radiation

6. The contrast between bright and dark bands of an interference pattern is

    1. Low   2. High   3. No change   4. Gradually decreases

7. A non-electrolyte solution is

    1. Sugar solution
    2. Salt solution
    3. Water
    4. Copper sulphate solution

Space For Rough Work

8. In alkalies the concentration of OH^- ions is

    1. More than 10^{-7}g ions / litre
    2. Less than 10^{-7}g ions / litre
    3. Equal to 10^{-7}g ions / litre
    4. More than 10^7g ions / litre

9. An example of derived unit is
    1. Meter
    2. Second
    3. Netwon
    4. Candela

10. The prefix used for 10^{-15} is
    1. Femto
    2. Pico
    3. Peta
    4. Nano

11. An example of dimensionless constant is
    1. Strain
    2. Efficiency
    3. Force
    4. Pi

12. A main scale is divided into half mm and having a Vernier containing 10 divisions has a least count of _____ cm.
    1. 0.05
    2. 0.005
    3. 0.02
    4. 0.025

13. According to Newton's second law of motion F = Kma. The value of K is
    1. 0.1
    2. 0
    3. 10
    4. 1

14. The velocity of a freely falling body is maximum
    1. At the beginning
    2. Just before it touches ground
    3. Exactly half way
    4. After it touches ground

15. Wet clothes are dried in washing machine by the property of
    1. Inertia of rest
    2. Inertia of direction
    3. Inertia of motion
    4. Inertia of time

16. A force of 1.2×10^{-2} N acts for 3 seconds on a body of mass 0.04kg at rest. The velocity gained by the body is
    1. 0.9 m/s
    2. 9 m/s
    3. 0.09 m/s
    4. 9.2 m/s

Space For Rough Work

17. An example of vector quantity is

    1. Volume   2. Energy   3. Density   4. Force

18. Handle of the door is fixed away from the end where it is fixed with hinges to

    1. Increase the moment of force   2. Decrease the moment of force

    3. Keep the door firm   4. Lock it easily

19. Resultant of two equal forces perpendicular to each other acts at an angle _____ to first force

    1. 90°   2. 180°   3. 30°   4. 45°

20. The resultant of two forces acting on a body cannot be

    1. Greater than first force

    2. Zero

    3. Lesser than first force

    4. Lesser than the difference between two forces

21. Towing of a boat by two forces is an illustration of

    1. Lami's theorem   2. Law of triangle of forces

    3. Law of parallelogram of forces   4. Law of polygon of forces

22. Shock absorber is an example for

    1. Compressive stress   2. Tensile stress

    3. Shear stress   4. Shear strain

23. Factor of safety of a structure is

    1. Within 2   2. Equal to zero

    3. Vary between 5 and 10   4. More than 10

24. In case of liquids as the temperature increases, the viscosity of liquid decreases due to

    1. Increase in the rate of diffusion of gases

    2. Decrease in the rate of diffusion of gases

    3. Increase in the potential energy of molecules

    4. Increase in the kinetic energy of molecules

Space For Rough Work

25. One Pascal is equal to

    1.   10 dynes/cm^2 2.   1 dyne / cm^2

    3.   100 dynes / cm^2 4.   0.1 dyne / cm^2

26. To calm down turbulent sea, sailors use oil to

    1.   Decrease surface tension   2.   Increase surface tension

    3.   Decrease viscosity   4.   Increase cohesive force

27. The thrust on the bottom of the container having a base area of 20 m^2 filled with water to a height of 3 m is _____ (given g =10m/s^2)

    1. 6×10^5 N   2. 6×10^4 N   3. 6×10^3 N   4. 6×10^2 N

28. Amount of heat required to raise the temperature of 1 kg of water through 1$^{\mathrm{o}}$C is

    1.   One calorie   2.   One joule   3.   One kilo-calorie   4.   One kilojoule

29. Absolute scale of temperature has its zero at

    1.   0$^{\mathrm{o}}$C   2.   –100$^{\mathrm{o}}$C   3.   273$^{\mathrm{o}}$C   4.   – 273$^{\mathrm{o}}$C

30. In case of an ideal gas, the value of pressure or volume co-efficient is

    1. $\dfrac{1}{273}$ 2. $-\dfrac{1}{273}$ 3.   273   4.   –273

31. The distance travelled by the disturbance per unit time in a given direction is

    1.   Wave amplitude   2.   Wave velocity

    3.   Wave frequency   4.   Wavelength

32. The speed of the transverse wave along the stretched string is given by

    1. $V=\sqrt{\dfrac{T}{m}}$ 2. $V=\sqrt{\dfrac{m}{T}}$ 3. $V=\sqrt{\dfrac{1}{T}}$ 4. $V=\dfrac{\sqrt{m}}{T}$

Space For Rough Work

33. Absorption co-efficient of sound wave is given by _____. Where E_m is energy absorbed by the given medium E_{ow} is the energy absorbed by open window.

1. $a = \dfrac{E_m}{E_{ow}}$
2. $a = \dfrac{E_{ow}}{E_m}$
3. $a = E_m \times E_{ow}$
4. $a = E_m + E_{ow}$

34. The rich quality of a musical note depends on
1. Fundamental frequency
2. Loudness
3. Larger number of over tones
4. Pitch

35. Waxing and waning are the characteristics of
1. Periodic motion
2. Oscillations
3. Beats
4. Frequency

36. Velocity of sound in air varies
1. Inversely as the square root of the density of the medium
2. Directly as the square root of the density of the medium
3. Directly as the density of medium
4. Inversely as the density of medium

37. The vibrations of a body of decreasing amplitude are called
1. Undamped free vibrations
2. Damped free vibrations
3. Resonant vibrations
4. Forced vibrations

38. Another name for field emission is
1. Cold cathode emission
2. Thermionic emission
3. Photoelectric emission
4. Secondary emission

39. In case of photoelectric emission, the rate of emission of electron is
1. Independent of frequency of radiation
2. Dependent on frequency of radiation
3. Dependent on wavelength of incident radiation
4. Independent of intensity of radiation

40. Emission of radiation from radioactive element is
1. Slow
2. Fast
3. Spontaneous
4. Very slow

Space For Rough Work

41. $\int\limits_{-1}^{1}(2x+1)(5-x)\,dx$ is

    1.   10   2. $\dfrac{26}{3}$ 3. $\dfrac{-26}{3}$ 4. $\dfrac{11}{3}$

42. $\int\limits_{0}^{\pi/4}\tan^2 x\,\sec^2 x\,dx$ is

    1. $\dfrac{1}{3}$ 2. $\dfrac{4}{3}$ 3. $\dfrac{1}{2}$ 4. $\dfrac{-1}{3}$

43. The RMS value of $y^2 = x^2 - 2x$ over the interval $[1, 3]$ is

    1. $\sqrt{\dfrac{5}{3}}$ 2. $\sqrt{\dfrac{2}{3}}$ 3. $\dfrac{1}{3}$ 4. $\dfrac{1}{\sqrt{3}}$

44. The differential equation of $y^3 = 5ax$ by eliminating arbitrary constant a is

    1. $\dfrac{dy}{dx} - \dfrac{y}{3x} = 0$ 2. $\dfrac{dy}{dx} + \dfrac{y}{3x} = 0$

    3. $\dfrac{dy}{dx} - \dfrac{3y}{x} = 0$ 4. $\dfrac{dy}{dx} - \dfrac{5y}{3x} = 0$

45. The integrating factor of the differential equation $x\dfrac{dy}{dx} - (1-x)y = x^3$ is

    1. $\dfrac{e^x}{x}$ 2. xe^x 3. $e^{\frac{x^2-2x}{2}}$ 4. $e^{\frac{2x-x^2}{2}}$

Space For Rough Work

46. If $\begin{vmatrix} 2x+1 & -5x \\ 1 & 3 \end{vmatrix} = 0$, then x is

1. $\dfrac{3}{11}$　　　　2. $\dfrac{-3}{11}$　　　　3. $\dfrac{11}{3}$　　　　4. $-\dfrac{11}{3}$

47. For the simultaneous linear equations $2x+y+z=1$, $x+y+2z=0$ and $3x+2y-z=2$, the value of Δx is

1. 3　　　　2. −11　　　　3. −7　　　　4. −3

48. If $A = \begin{bmatrix} 2 & 3 \\ 5 & 4 \end{bmatrix}$, $B = \begin{bmatrix} -1 & 7 \\ -4 & 1 \end{bmatrix}$ then $(A+B)^T$ is

1. $\begin{bmatrix} 1 & 1 \\ 10 & 5 \end{bmatrix}$　　　2. $\begin{bmatrix} 1 & 10 \\ 1 & 5 \end{bmatrix}$　　　3. $\begin{bmatrix} -1 & 10 \\ -1 & 5 \end{bmatrix}$　　　4. $\begin{bmatrix} -1 & -1 \\ 10 & 5 \end{bmatrix}$

49. If $A = \begin{bmatrix} 1 & -3 \\ -5 & 7 \end{bmatrix}$, then adj A is

1. $\begin{bmatrix} 1 & -5 \\ -3 & 7 \end{bmatrix}$　　　2. $\begin{bmatrix} 7 & -5 \\ -3 & 1 \end{bmatrix}$　　　3. $\begin{bmatrix} -1 & -5 \\ -3 & -7 \end{bmatrix}$　　　4. $\begin{bmatrix} 7 & 3 \\ 5 & 1 \end{bmatrix}$

50. The cofactor of O in $A = \begin{bmatrix} 3 & -2 & 5 \\ 1 & 6 & 0 \\ 2 & 7 & -4 \end{bmatrix}$ is

1. −25　　　　2. 25　　　　3. −17　　　　4. 0

Space For Rough Work

51. If $\left(\sqrt{3}+1\right)^3 = 10+6\sqrt{3}$, then the value of $\left(\sqrt{3}+1\right)^3 - \left(\sqrt{3}-1\right)^3$ is

1. $12\sqrt{3}$ 2. 0   3. 20   4. $20+\sqrt{3}$

52. The middle term in the expansion of $\left(x^3 + \dfrac{1}{x^2}\right)^6$ is

1. $10\,x^3$ 2. $20\,x^3$ 3. $\dfrac{20}{x^3}$ 4. 20

53. If $\vec{a} = i+3j-2k$ and $\vec{b} = 2i-j+3k$, then $\vec{a} \cdot \vec{b}$ is

1. -5 2. 11   3. 7   4. -7

54. The work done by the force $2i-j+6k$ when it displaces the particle from (5, 3, −2) to (7, −4, 8) is

1. 72   2. 48   3. −71   4. 71

55. The sine of the angle between the vectors $\vec{a} = i+j+k$ and $\vec{b} = 2i-3j-4k$ is

1. $\sqrt{\dfrac{62}{87}}$ 2. $\sqrt{\dfrac{87}{62}}$ 3. $\dfrac{-5}{\sqrt{87}}$ 4. $\sqrt{\dfrac{10}{63}}$

56. If $\cos\theta = \dfrac{5}{13}$ and θ is acute angle, then the value of $3\cos\theta - 2\sin\theta$ is

1. $\dfrac{9}{13}$ 2. 3   3. $\dfrac{-9}{13}$ 4. −3

Space For Rough Work

57. If $x \sin 30° - Sec\ 30° \tan 30° = \tan^2 60°$, then the value of x is

1. $\dfrac{22}{3}$
2. $\dfrac{-22}{3}$
3. $\dfrac{11}{6}$
4. $\dfrac{3}{22}$

58. The value of $\sin 225° + \cos\left(-135°\right)$ is

1. $\sqrt{2}$
2. $-\sqrt{2}$
3. $\dfrac{1}{\sqrt{2}}$
4. $\dfrac{-1}{\sqrt{2}}$

59. The simplified value of $\dfrac{\sin\left(180°-A\right)\cot\left(90°-A\right)\cos\left(360°-A\right)}{\tan\left(180°+A\right)\tan\left(90°+A\right)\sin\left(-A\right)}$ is

1. $\sin A$
2. $-\sin A$
3. 1
4. $cosec\ A$

60. The simplified value of $\dfrac{\sin 2A}{1+\cos 2A}$ is

1. $2\tan A$
2. $\sin A$
3. $\cot A$
4. $\tan A$

61. If $\tan A = \dfrac{3}{4}$ and $\tan B = \dfrac{1}{7}$, then the value of (A+B) is

1. $\dfrac{\pi}{6}$
2. $\dfrac{25}{23}$
3. $\dfrac{\pi}{4}$
4. $\dfrac{23}{25}$

62. The value of $\cos 20° + \cos 100° + \cos 140°$ is

1. 0
2. $\cos 50°$
3. $\dfrac{1}{2}$
4. $\sin 50°$

Space For Rough Work

A-4   10   **CR**

63. The value of $\cos^{-1}\left[\tan 135^\circ\right]$ is

   1. 0°
   2. 180°
   3. 45°
   4. 90°

64. The centroid of the triangle formed by the vertices $(-10,\ 6)$, $(2,\ -2)$ and $(2,\ 5)$ is

   1. $(-2, 3)$
   2. $(2, 3)$
   3. $\left(-3, \dfrac{9}{2}\right)$
   4. $(-6, 9)$

65. A point $(-4, 3)$ divides the line AB externally in the ratio of $1 : 2$. Given $A(-1, -3)$ then the point B is

   1. $(6, -3)$
   2. $(-10, 15)$
   3. $(2, 9)$
   4. $(2, -9)$

66. The area of triangle formed by the point, $(3, -1)$, $(2, 0)$ and $(K, 4)$ is 10 Sq. Units, then the value of K is

   1. 12
   2. 7
   3. -22
   4. 22

67. The slope of the line joining the points $(-2, 3)$ and $(4, -6)$ is

   1. $\dfrac{3}{2}$
   2. $\dfrac{-3}{2}$
   3. $\dfrac{2}{3}$
   4. $\dfrac{-2}{3}$

68. The equation of straight line passing through $(4, -1)$ and having equal intercepts is

   1. $x+y-1=0$
   2. $x+y-5=0$
   3. $x+y-3=0$
   4. $x+y+3=0$

69. The equation of the line passing through $(5, -2)$ and parallel to the line $3x+2y+7=0$ is

   1. $3x+2y-11=0$
   2. $3x-2y+11=0$
   3. $3x-2y-19=0$
   4. $2x-3y-16=0$

Space For Rough Work

70. The value of $\displaystyle \lim_{x \to -2} \frac{x+2}{x^5+32}$ is

    1. $\dfrac{1}{80}$ 2. 80   3. $\dfrac{-1}{80}$ 4. -80

71. The value of $\displaystyle \lim_{x \to 0} \frac{2x - \tan 3x}{\sin 2x + 3x^2}$ is

    1. $\dfrac{-1}{5}$ 2. 0   3. $\dfrac{1}{2}$ 4. $-\dfrac{1}{2}$

72. If $y = e^x \log x$, then $\dfrac{dy}{dx}$ at $x = 1$ is

    1. e^x 2. e 3. 1   4. 0

73. If $y = \tan^{-1} \sqrt{\dfrac{1 + \cos x}{1 - \cos x}}$, then $\dfrac{dy}{dx}$ is

    1. 2   2. -2 3. $\dfrac{-1}{2}$ 4. $\dfrac{1}{2}$

74. If $\sqrt{x^3} + \sqrt{y^3} = \sqrt{a^3}$, then $\dfrac{dy}{dx}$ is

    1. $\sqrt{\dfrac{x}{y}}$ 2. $-\sqrt{\dfrac{x}{y}}$ 3. $\sqrt{\dfrac{y}{x}}$ 4. $-\sqrt{\dfrac{y}{x}}$

75. The second derivative of $y = \log(\sec x - \tan x)$ is

    1. $-\sec x \tan x$ 2. $\sec x \tan x$ 3. $-\sec x$ 4. $\sec x$

Space For Rough Work

76. Water flows into the cylindrical tank of radius 7mt at the rate of 294 cubic mt/sec, then the rate of height of water rising in the tank is

1. $\frac{\pi}{6}$ mt / sec

2. $\frac{6}{\pi}$ mt / sec

3. 14406 mt / sec

4. $\frac{21}{\pi}$ mt / sec

77. The maximum value of the function $y = x + \frac{1}{x}$ is

1. 0

2. 2

3. 1

4. −2

78. The value of $\int tan^2 x \ dx$ is

1. $tan \ x - x + c$

2. $x - tan \ x + c$

3. $(sec^2 x)^2 + c$

4. $-cot \ x - x + c$

79. The value of $\int \frac{cos \ x}{1 + sin \ x} \ dx$ is

1. $log(sec^2 x + sec \ x \ tan \ x) + c$

2. $log(sin \ x) + c$

3. $log(1 + sin \ x) + c$

4. $\frac{(1 + sin \ x)^2}{2} + c$

80. $\int sin^2 x \ sin \ 2x \ dx$ is

1. $\frac{sin^2 x}{2} + c$

2. $\frac{sin^4 x}{2} + c$

3. $sin^2 x + c$

4. $\frac{-sin^4 x}{2} + c$

Space For Rough Work

PART - C
CERAMICS TECHNOLOGY

81. The temperature during cement grinding should not exceed

    1. $120^{o}C$ 2. $150^{o}C$ 3. $180^{o}C$ 4. $200^{o}C$

82. Sodium chloride acts as

    1. Set accelerator   2. False setting

    3. Set retarders   4. None of these

83. We call calcium oxide as _____ lime

    1. Matt   2. Bulk   3. Quick   4. Sick

84. Heat of hydration is solely related to the compound composition of cement that is

    1. C_2S, C_3S, C_3A, C_4AF 2. C_3S

    3. C_3A 4. C_4AF

85. Lime stone used for the manufacture of Portland cement should have more than _____ CaO and less than 5% MgO

    1. 45%   2. 99%   3. 5%   4. 10%

86. IST and FST of cement can be determined by using _____ apparatus

    1. Vicats needle   2. Blains Needle   3. Sharp needle   4. Blunt Needle

87. The Cooling of clinkers should be done

    1. Rapid   2. Slow   3. Very Slow   4. Critical

Space For Rough Work

88. At what temperature liquid phase is noted high when coal fuel is used during cement clinkerization in rotary kiln

1. $1250^{0}C$ 2. $1350^{0}C$ 3. $1425^{0}C$ 4. $1000^{0}C$

89. The Calorific Value of solid fuel is determined by

1. Nelson Calorimeter

2. Bomb Calorimeter

3. Ramson Calorimeter

4. Simon's Calorimeter

90. The Moisture content of freshly cut wood is

1. 15 – 20 %   2. 25 – 50 %   3. 55 – 60 %   4. 70 – 80 %

91. Nitrogen has _____ Calorific value

1. Low   2. High   3. No   4. Medium

92. Gaseous fuel produced by degradation of biological matter is called

1. Producer gas

2. Water gas

3. Natural gas

4. Bio gas

93. The function of damper is to

1. Regulate draught

2. Regulate breaking

3. Regulate Feeding

4. Regulate handling

94. Regenerators are constructed of

1. Clay bricks

2. Cement blocks

3. Refractory bricks

4. Wooden blocks

Space For Rough Work

95. The insutrument used to determine the viscosity of oil is

    1. Plain wood viscometer
    2. Red wood Viscometer
    3. Brown Wood Viscometer
    4. Brewestor Viscometer

96. Peat is

    1. Brown fibrous jelly
    2. Red fibrous jelly
    3. Yellow fibrous jelly
    4. Green fibrous jelly

97. Example for amphoteric oxide is

    1. ZnO
    2. Pb_3O4
    3. TiO_2
    4. Al_2O_3

98. Which oxide in glaze composition creates

    1. ZrO_2
    2. SnO_2
    3. ZnO
    4. PbO

99. If a glaze test piece bends convexly towards glazed side in glost firing, then such glazes are said to be in

    1. Compression
    2. Tension
    3. Expansion
    4. Contraction

100. Color stains are ground very fine equal to ASTM mesh no

    1. 100
    2. 150
    3. 160
    4. 250

101. Pin holes usually occur in glazes when they are subjected to

    1. Under firing
    2. Over firing
    3. Variation in firing
    4. Refiring

Space For Rough Work

102. Addition of electrolyte to glaze slip is

1. Required
2. Not required
3. Not Known
4. None of these

103. To convert white lead into litharge, the temperature required is

1. $300-400^o C$
2. $800-900^o C$
3. $1000-1100^o C$
4. $110-150^o C$

104. The ratio of basic oxide with acidic oxide in the glaze mix is

1. Limited
2. Unlimited
3. Equal
4. Unequal

105. The ore name of naturally occurring iron oxide used in color of glaze is

1. Pyrolusite
2. Celisite
3. Barite
4. Red Ochre

106. Painting Method of glaze coating application is adopted for

1. Insulators
2. Stonewares
3. Tiles
4. Wares to be decorated

107. If the diameter of the ball mill is 6ft, then its speed is

1. 12 – 14 rpm
2. 17 – 20 rpm
3. 20 – 23 rpm
4. 23 – 27 rpm

108. Mesh No. indicates number of aperatures per

1. Square inch
2. Square foot
3. Linear inch
4. Linear foot

Space For Rough Work

109. Slip is mixed in

    1.   Ribbon mixer   2. Blunger   3. Pug mill   4. Muller mixer

110. The Process of shaping in a concave mould is known as

    1.   Jiggering   2. Jolleying   3. Pressing   4. Casting

111. Which of the following press uses rubber mould

    1.   Screw press   2. Hydraulic Press

    3.   Iso-static Press   4. Hot iso-static Press

112. Dust Laden air can be purified using a

    1.   Cyclone separator   2. Bag filter

    3.   Gravity settler   4. Tubular centrifuge

113. Which one of the following is used for Conveying Slurry

    1.   Screw Conveyor   2. Bucket elevator

    3.   Membrane Pump   4. Belt Conveyor

114. The hardness of filter pressed cakes is tested by

    1.   Vicat apparatus   2. Penitrometer

    3.   Le-chatlier apparatus   4. Auto clave apparatus

115. Beak down voltage is also known as

    1.   Resistance   2. Di-electric constant

    3.   Di-electric strength   4. Temperature tolerance

Space For Rough Work

116. P-Quartz converts into trydamite at

    1. 573^oC 2. 980^oC 3. 750^oC 4. 870^oC

117. Di electric constant of rutile body is

    1. 76   2. 55   3. 80   4. 85

118. Barium titanate is

    1. Crystalline   2. Piezo electric   3. Capacitor   4. All of these

119. Hardness of ZrO_2 on Moh's scale is

    1. 6   2. 6.2   3. 6.5   4. 6.9

120. _____ Moisture content is maintained in wall title composition for pressing

    1. 1 – 2 %   2. 5 – 10 %   3. 15 – 20 %   4. 20 – 25 %

121. Vitrified tile is of _____ body type

    1. Terra cotta   2. Earthenware

    3. Stoneware   4. Porcelain

122. _____ is a catalytic convertor

    1. Honey comb   2. Spark plug

    3. Ferrite   4. Capacitor

123. _____ is a major constituent of ferrite

    1. Manganese-di-oxide   2. Calcium oxide

    3. Iron oxide   4. Boron oxide

Space For Rough Work

124. The trade name of alumina is

    1. Carborandom
    2. Corondum
    3. Albite
    4. Anorthite

125. Factor which contribute to clay is

    1. Plate like particles
    2. Slate like particles
    3. Template like particles
    4. Amplet like particles

126. Kaolin's are

    1. Black burning clays
    2. White burning clays
    3. Red burning clays
    4. Brown burning clays

127. Which of the following is drying aid

    1. Ammonium carbonate
    2. Sodium carbonate
    3. Calcium carbonate
    4. Magnesium carbonate

128. The most common method of TiN thin film creation is

    1. PVD
    2. CVD
    3. Both 1 and 2
    4. DVD

129. Borides are compounds of

    1. Boron with metal
    2. Boron with non metal
    3. Boron with silica
    4. Boron with zircon

130. Methods used for purification of clay is

    1. Electro – osmosis
    2. Froth floatation
    3. Magnetic separation
    4. All of these

Space For Rough Work

131. Molybdenum disilicide is used in

    1.   Micro electronics
    2.   Macro electronics
    3.   Digital electronics
    4.   Analog electronics

132. Alumina increases

    1.   Density
    2.   Porosity
    3.   Water absorption
    4.   Permeability

133. TiN imparts _____ colour

    1.   Metallic gold
    2.   Metallic silver
    3.   Metallic blue
    4.   Metallic green

134. Carbonates lead to

    1.   Less Shrinkage
    2.   More shrinkage
    3.   Medium shrinkage
    4.   No shrinkage

135. Sand stone is

    1.   Igneous rock
    2.   Sedimentary rock
    3.   Metamorphic rock
    4.   Not a rock

136. Adamantine is a

    1.   Streak   2.   Hardness   3.   Colour   4.   Luster

137. Geology is a study of

    1.   Rocks   2.   Minerals   3.   Structure of earth   4.   All of these

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138. The dip and strike of earth are measured by using _____

    1.   Contact goniometry   2.   Reflection goniometry

    3.   Clinometers compass   4.   Mariner's compass

139. A Property of mineral to transmit light through it is called

    1.   Transparent   2. Translucent   3. Opaque   4. Ductility

140. Barite Crystallizer under _____ system

    1.   Isometric   2. Hexagonal   3. Tetragonal   4. Orthorhombic

141. Compositon of Kaolinite is

    1. $Al_2O_3 \cdot 3SiO_2$ 2. $Al_2O_3 \cdot H_2O$

    3. $Al_2O_3 \cdot H_2O \cdot SiO_2$ 4. $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$

142. Interfacial angle = _____ internal angle

    1. 60^0 2. 90^0 3. 180^0 4. 360^0

143. Ceramics is derived from _____ word

    1.   Egypt   2. Greek   3. German   4. French

144. Which one of the following white ware body is structurally weak

    1.   Terracotta   2. Earthenware   3. Stoneware   4. Porcelain

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145. Porcelains are

    1.   Opaque   2. Translucent   3. Transparent   4. Malleable

146. Quartz imparts _____ to White ware bodies

    1.   Strength   2. Softness   3. Fluidity   4. Brittleness

147. The Property of clay to hold together is known as

    1.   Green Strength   2. Dry Strength   3. Fired Strength   4. Breaking Strength

148. Which one of the following is not a glaze application method

    1.   Dipping   2. Pouring   3. Spraying   4. Etching

149. Vitrified tiles are fired in

    1.   Tunnel kiln   2. Shuttle kiln   3. Roller hearth kiln   4. Pusher kiln

150. _____ is the intermediate Coating between body and glaze

    1.   Enamel   2. Engobe   3. Lacquer   4. Resin

151. Excessive shrinkage leads to

    1.   Sticking   2. Cracking   3. Stroking   4. Melting

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152. The methods of increasing thermal shock resistance in any body

   1. Increase Porosity   2. Increasing thermal conductivity

   3. Decreasing thermal expansion   4. All the these

153. _____ is a refractory material

   1. Quartz   2. Feldspar   3. Calcite   4. Hematite

154. Calcined bauxite melts at _____ temperature

   1. 2050^oC 2. 1550^oC 3. 1650^oC 4. 1750^oC

155. The advantages of using grog in fresh refractory batch is to get

   1. Less Shrinkage on heating   2. Less Pyrometric cone equivalent

   3. Less refractoriness under load   4. High thermal shock resistance

156. The Calcination temperature of refractory material is

   1. $500-600^oC$ 2. $700-800^oC$ 3. $1300-1400^oC$ 4. $2000-2100^oC$

157. Carbon refractory is fired in the absence of oxygen at

   1. $1100-1300^oC$ 2. $1400-1500^oC$ 3. $1600-1700^oC$ 4. $1750-1800^oC$

158. In the manufacturing of chrome – magnesite bricks the ratio maintained is

   1. $50:50$ 2. $60:40$ 3. $70:30$ 4. $80:20$

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159. Silica refractories are

    1. Acidic   2. Basic   3. Neutral   4. Special

160. _____ refractories are used in the construction of glass tank furnace

    1. AZS Electro cast   2. Graphite   3. Silica   4. Special

161. _____ is mixed with fireclay to produce insulation bricks

    1. Saw dust   2. Ball Clay   3. Grog   4. Poly vinyl alcohol

162. Chemical Formula of kyanite is

    1. $3Al_2O_3 \cdot SiO_2$ 2. $3(Al_2O_3 \cdot SiO_2)$ 3. $Al_2O_3 \cdot 3SiO_2$ 4. $Al_2O_3 \cdot SiO_2$

163. Surface tension of water at 25^0C is

    1. 76 MN/M   2. 73 MN/M   3. 72 MN/M   4. 68 MN/M

164. Vapor phase techniques are used to produce

    1. High purity particles   2. Sub Micron size particle

    3. Well dispersed particles   4. All of the above

165. The boiling point of ethyl alcohol

    1. 100^0C 2. 65^0C 3. 49^0C 4. 79^0C

166. _____ improves the compatibility of solids with the liquid medium, when they are absorbed at the interface

    1. Surfactant   2. Colourant   3. Stain   4. Opacifier

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167. _____ is a organic binder

    1.   Kaolin   2. Ball Clay   3. Bentonite   4. PVA

168. Enzymatic degradation of a binder can be controlled by

    1.   Plasticizer   2.   Preservative

    3.   Foaming agent   4.   Lubricant

169. General formula of glass is

    1. $Ax_2O \cdot ByO \cdot 6SiO_2$ 2. $AxO \cdot B_2O \cdot 3SiO_2$

    3. $A_2x \cdot B_2y \cdot 5SiO_2$ 4. $Ax_3O \cdot By_3O \cdot 4SiO_2$

170. Chemical formula of potash lime glass is

    1. $Na_2O \cdot CaO \cdot 6SiO_2$ 2. $K_2O \cdot CaO \cdot 6SiO_2$

    3. $K_2O \cdot PbO \cdot 6SiO_2$ 4. $MgO \cdot CaO \cdot 6SiO_2$

171. Na_2O in glass is considered as

    1.   Network former   2.   Network modifier

    3.   Indeter Mediators   4.   Accelerator

172. Optical glass without lead has

    1.   Lower refractive index   2.   Higher refractive index

    3.   Medium refractive index   4.   None of these

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173. In general Cullet is crushed to _____ size

    1.   One inch   2.   Two inch   3.   Four inch   4.   Five inch

174. Apparatus used for the determination of softening point of glass is

    1.   Littleton   2.   Hillton   3.   Millton   4.   Alston

175. Convection Current helps to make the glass

    1.   Homogeneous   2.   Non homogeneous

    3.   Solid   4.   Liquid

176. The defect cord is due to

    1.   Unequal Cooling   2.   Reheating   3.   Tempering   4.   Equal Cooling

177. Glass is an excellent

    1.   Conductor   2.   Semi-Conductor

    3.   Insulator   4.   Resistor

178. Fire Polish improves the

    1.   Surface of glass   2.   Microstructure of glass

    3.   Density of glass   4.   Viscosity of glass

179. Which one of the following is the average particle size of ground Portland cement

    1. 90μ 2. 100μ 3. 44μ 4. 20μ

180. The specific gravity of limestone used in OPC is

    1.   1.1 to 2.2   2.   3.6 to 3.8   3.   1.6 to 1.8   4.   2.6 to 2.8

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