[M]ULTIPLE CHOICE QUESTIONS

1. For a differentiable function f, the value of $\underset{h \to 0}{\text{Lt}} \dfrac{[f(x+h)]^2 - [f(x)]^2}{2h}$ is equal to
   (a) $[f'(x)]^2$ (b) $f(x) f'(x)$
   (c) $\frac{1}{2}[f'(x)]^2$ (d) $\frac{1}{2}[f'(x)]^2 - [f(x)]^2$

2. The derivative of an even function
   (a) is an odd function (b) is an even function
   (c) does not exist (d) is a constant function

3. If $f(x) = \begin{cases} ax^2 + b & ; b \neq 0, x \leq 1 \\ bx^2 + ax + c; & x > 1 \end{cases}$

   then $f(x)$ is continuous and differentiable at $x = 1$ if
   (a) $c = 0, a = 2b$ (b) $a = b$, c arbitrary
   (c) $a = b, c = 0$ (d) $a = b, c \neq 0$

4. Let $f(x) = \dfrac{\sin 4\pi [x]}{1 + [x]^2}$ where $[x]$ is the greatest integer $\leq x$. Then
   (a) $f(x)$ is not differentiable at some points
   (b) $f'(x)$ exists but is different from 0
   (c) $f'(x) = 0$ for all x
   (d) $f'(x) = 0$ but f is not a constant function.

5. For a real number y, let $[y]$ denote the greatest integer $\leq y$. Then

   $f(x) = \dfrac{\tan(\pi[x - \pi])}{1 + [x]^2}$ is
   (a) discontinuous at some x
   (b) continuous at all x but the derivative $f'(x)$ does not exist for some x
   (c) $f'(x)$ exists for all x but second derivative $f''(x)$ does not exist.
   (d) $f'(x)$ exists for all x

6. Given $g(0) = 2$, $g'(0) = 1$ and $f(x) = x\ g(x)$, then $f'(0)$ is
   (a) -2 (b) 0
   (c) 2 (d) $\frac{1}{2}$

7. If $f(x+y) = f(x)f(y)$ for all x and y, $f(5) = 2$ and $f'(0) = 3$, then $f'(5)$ is

(a) 5
(b) 6
(c) 0
(d) None of these

8. Let f be a function satisfying $f(x+y) = f(x) + f(y)$ and $f(x) = x^2 g(x)$ for all x and y, where $g(x)$ is a continuous function. Then $f'(x)$ is equal to

(a) $g'(x)$
(b) $g(0)$
(c) $g(0) + g'(x)$
(d) 0

9. If $f(a) = 2, f'(a) = 1, g(a) = -1, g'(a) = 2$ then the value of

$$\underset{x \to a}{\text{Lt}} \frac{g(x) f(a) - g(a) f(x)}{x - a} \text{ is}$$

(a) -5
(b) $\frac{1}{5}$
(c) 5
(d) none of these

10. If $f(x) = e^x g(x)$, $g(0) = 2, g'(0) = 1$, then $f'(0)$ is

(a) 1
(b) 3
(c) 2
(d) 0

11. Let $f(x) = x\left(\sqrt{x} - \sqrt{x+1}\right)$. Then

(a) f is continuous but not differentiable at $x = 0$
(b) f is differentiable at $x = 0$
(c) f is not differentiable at $x = 0$
(d) none of these

12. If $y = e^{(1 + \log_e x)}$, the $\frac{dy}{dx}$ equals

(a) e
(b) 1
(c) 0
(d) $\log_e x \cdot e^{\log_e x}$

13. If $e^{x-y} = x^y$, then $\frac{dy}{dx}$ is equal to

(a) $\frac{x}{(1 + \log x)^2}$
(b) $\frac{x \log x}{(1 + \log x)^2}$
(c) $\frac{\log x}{(1 + \log x)^2}$
(d) None of these

14. The differential coefficient of $f(\log x)$ where $f(x) = \log x$ is

(a) $\frac{x}{\log x}$
(b) $\frac{\log x}{x}$
(c) $\frac{1}{x \log x}$
(d) None of these

15. If $f(x) = (\log_x 2)(\ln x)$, then $f'(x)$ at $x = e$ is

(a) 0

(b) 1

(c) $\frac{1}{e}$

(d) $\frac{1}{2e}$

16. If $y = \sqrt{x + \sqrt{x + \sqrt{x + \ldots \infty}}}$, then $\frac{dy}{dx}$ is equal to

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

(b) $\frac{1}{2y-1}$

(c) $\frac{1}{x\sqrt{y}}$

(d) $\frac{1}{2y+x}$

17. If $x^m y^n = (x+y)^{m+n}$, then $\frac{dy}{dx}$ is

(a) $\frac{y}{x}$

(b) $\frac{x}{y}$

(c) $\frac{m}{n}$

(d) $\frac{n}{m}$

18. If $x^2 + xy + y^2 = 0$, then $\frac{d^2y}{dx^2}$ is

(a) 0

(b) 1

(c) $\frac{1}{2}$

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

19. If $xy = x + y$, then $\frac{dy}{dx}$ is

(a) $\frac{xy}{1-x}$

(b) $\frac{y+1}{1-x}$

(c) $\frac{y}{1-xy}$

(d) $\frac{-1}{(x-1)^2}$

20. If $y = x^x$, then $\frac{dy}{dx}$ is

(a) $x\,x^{x-1}$

(b) $x^x \log x$

(c) $x^x(1 + \log x)$

(d) $\frac{x^x}{\log x}$

21. If $x^m y^n = a$, then $\frac{dy}{dx}$ equals

(a) $\frac{y}{x}$ (b) $\frac{x}{y}$

(c) $\frac{mx}{ny}$ (d) $-\frac{my}{nx}$

22. The differential coefficient of $\log \tan x$ is

(a) $2 \sec 2x$ (b) $2 \operatorname{cosec} 2x$

(c) $2 \sec^3 x$ (d) $2 \operatorname{cosec}^3 x$

23. If $y = \sin x°$, then $\frac{dy}{dx}$ is

(a) $\cos x°$ (b) $\frac{\pi}{180} \cos x°$

(c) $\frac{180}{\pi} \cos x°$ (d) none of these

24. If $y = \log \cos \sqrt{x}$, then $\frac{dy}{dx}$ is

(a) $-\frac{\tan \sqrt{x}}{2\sqrt{x}}$ (b) $\frac{\tan \sqrt{x}}{2\sqrt{x}}$

(c) $\frac{1}{\cos \sqrt{x}}$ (d) $-\tan \sqrt{x}$

25. If $\sin(x + y) = \log(x + y)$, then $\frac{dy}{dx}$ is

(a) 2 (b) -2

(c) 1 (d) -1

26. If $y = \tan^{-1}\left(\frac{\sin x}{1 + \cos x}\right)$, then $\frac{dy}{dx}$ is

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$

(c) $1 + \cos^2 x$ (d) $-\frac{1}{4}$

27. If $y = \sqrt{\sin x + y}$, then $\frac{dy}{dx}$ is

(a) $\frac{\sin x}{2y - 1}$ (b) $\frac{\sin x}{1 - 2y}$

(c) $\frac{\cos x}{1 - 2y}$ (d) $\frac{\cos x}{2y - 1}$

28. If $y = \tan^{-1}\left(\dfrac{x+a}{1-xa}\right)$, then $\dfrac{dy}{dx}$ is

(a) $\dfrac{1}{a^2+x^2}$ (b) $\dfrac{1}{1+x^2}$

(c) $\dfrac{a}{a^2+x^2}$ (d) $\dfrac{a^2}{(1-xa)^2}$

29. If $3\sin(xy) + 4\cos(xy) = 5$, then $\dfrac{dy}{dx}$ is equal to

(a) $-\dfrac{y}{x}$ (b) $\dfrac{3\sin(xy)+4\cos(xy)}{3\sin(xy)-4\cos(xy)}$

(c) $\dfrac{3\cos(xy)+4\sin(xy)}{4\cos(xy)-3\sin(xy)}$ (d) none of these.

30. If $y = \sin^{-1}\left(\dfrac{1-x^2}{1+x^2}\right)$, then $\dfrac{dy}{dx}$ is

(a) $-\dfrac{2}{1+x^2}$ (b) $\dfrac{2}{1+x^2}$

(c) $\dfrac{1}{2-x^2}$ (d) $\dfrac{2}{2-x^2}$

31. If $x = a\cos^3\theta$, $y = a\sin^3\theta$, then $\sqrt{1+\left(\dfrac{dy}{dx}\right)^2}$ is equal to

(a) $\tan^2\theta$ (b) $\sec^2\theta$

(c) $\sec\theta$ (d) $|\sec\theta|$

32. If $x = a(\cos\theta + \theta\sin\theta)$, $y = a(\sin\theta - \theta\cos\theta)$, then $\dfrac{dy}{dx}$ is equal to

(a) $\cot\theta$ (b) $\tan\theta$

(c) $\tan\dfrac{\theta}{2}$ (d) $\cot\dfrac{\theta}{2}$

33. If $y = \log\left(\dfrac{1-x^2}{1+x^2}\right)$, $\dfrac{dy}{dx}$ is

(a) $\dfrac{4}{1-x^2}$ (b) $-\dfrac{4x}{1-x^4}$

(c) $\dfrac{4x^3}{1-x^4}$ (d) $-\dfrac{4x^3}{1-x^4}$

34. For the curve $\sqrt{x}+\sqrt{y}=1$, $\frac{dy}{dx}$ at $\left(\frac{1}{4},\frac{1}{4}\right)$ is

(a) $\frac{1}{2}$ (b) 1

(c) -1 (d) 2

35. If $x = a(\cos\theta + \theta\sin\theta)$, $y = a(\sin\theta - \theta\cos\theta)$ then $\frac{dy}{dx}$ is

(a) $\frac{y}{x}$ (b) $\sin\theta$

(c) $\cos\theta$ (d) $\tan\theta$

36. The differential coefficient of x^6 w.r.t. x^3 is

(a) $6x^6$ (b) $3x^2$

(c) $2x^3$ (d) x^2

37. The derivative of $\sec^{-1}\left(\frac{1}{2x^2-1}\right)$ w.r.t. $\sqrt{1+3x}$ at $x=-\frac{1}{3}$ is

(a) $\frac{1}{2}$ (b) $\frac{1}{3}$

(c) 0 (d) does not exist

38. If $y=\sec^{-1}\left(\frac{x+1}{x-1}\right)+\sin^{-1}\left(\frac{x-1}{x+1}\right)$, then $\frac{dy}{dx}$ is

(a) 0 (b) 1

(c) $\frac{x-1}{x+1}$ (d) $\frac{x+1}{x-1}$

39. $\frac{d}{dx}[\tan^{-1}(\sec x+\tan x)]$ is

(a) 0 (b) $\frac{1}{2}$

(c) 2 (d) $\sec x-\tan x$

40. Let $y=\sin^{-1}\left(\frac{2x}{1+x^2}\right)$, $0<x<1$ and $0<y<\frac{\pi}{2}$, then $\frac{dy}{dx}$ is equal to

(a) $\frac{2}{1+x^2}$ (b) $\frac{2x}{1+x^2}$

(c) $-\frac{2}{1+x^2}$ (d) none of these

41. If $y = \tan^{-1}\left(\dfrac{\sqrt{1+x^2}-1}{x}\right)$, then $y'(0)$ equals

(a) $\dfrac{1}{2}$ (b) 0

(c) 1 (d) none of these

42. The differential coeff. of $\tan^{-1}\left(\dfrac{\cos x+\sin x}{\cos x-\sin x}\right)$ is

(a) 0 (b) $\dfrac{1}{2}$

(c) 1 (d) none of these

43. The differential coefficient of $\sqrt{\sec\sqrt{x}}$ w.r.t. x is

(a) $\dfrac{1}{4\sqrt{x}}\left(\sec\sqrt{x}\right)^{\frac{3}{2}}\sin\sqrt{x}$ (b) $\dfrac{1}{4\sqrt{x}}\sec\sqrt{x}\sin\sqrt{x}$

(c) $\dfrac{1}{2}\sqrt{x}\left(\sec\sqrt{x}\right)^{\frac{3}{2}}\sin\sqrt{x}$ (d) $\dfrac{1}{2}\sec\sqrt{x}\sin\sqrt{x}$

44. Derivative of $\tan^{-1}\left(\dfrac{\sqrt{1+x^2}-1}{x}\right)$ w.r.t. $\tan^{-1}x$ is

(a) $\dfrac{1}{1+x^2}$ (b) $\dfrac{\sqrt{1+x^2}-1}{x}$

(c) 1 (d) $\dfrac{1}{2}$

45. The derivative of $\cos^{-1}(2x^2-1)$ w.r.t. $\cos^{-1}x$ is

(a) 2 (b) $\dfrac{2}{x}$

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

46. The derivative of $\sin^{-1}x$ w.r.t. $\cos^{-1}\sqrt{1-x^2}$ is

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

(c) ... $^{-1}$ (d) $\tan^{-1}\dfrac{x}{\sqrt{1-x^2}}$

47. Let $f(x) = \dfrac{x^2}{1-x^2}$, $x \neq 0, \pm 1$, then derivative of $f(x)$ w.r.t. x^2 is

(a) $\dfrac{2x}{(1-x^2)^2}$ (b) $\dfrac{1}{(1-x^2)^2}$

(c) $\dfrac{1}{(2+x^2)^2}$ (d) $\dfrac{1}{(2-x^2)^2}$

48. The derivative of $\sec^{-1}\left(\dfrac{1}{2x^2-1}\right)$ w.r.t. $\sqrt{1-x^2}$ at $x = \dfrac{1}{2}$ is

(a) 2 (b) 1

(c) 3 (d) 4

49. If $f(x) = |x-2|$ and $g(x) = f[f(x)]$, then for $x > 20$, $g'(x)$ is

(a) 0 (b) 1

(c) 2 (d) none of these

50. If $y^2 = p(x)$, a polynomial of degree 3, then $2\dfrac{d}{dx}\left(y^3 \dfrac{d^2y}{dx^2}\right)$ is

(a) $p''(x) + p'(x)$ (b) $p''(x)\,p'''(x)$

(c) $p(x)\,p'''(x)$ (d) constant

51. If $u = \sin^{-1}\dfrac{2x}{1+x^2}$ and $v = \tan^{-1}\dfrac{2x}{1-x^2}$, then $\dfrac{dy}{dx}$ is

(a) $\dfrac{1-x^2}{1+x^2}$ (b) 1

(c) $\dfrac{1}{2}$ (d) x

52. If $x = a\cos nt - b\sin nt$, then $\dfrac{d^2x}{dt^2}$ is

(a) $-nx$ (b) nx

(c) n^2x (d) $-n^2x$

53. If $y = ax^{n+1} + bx^{-n}$, then $x^2\dfrac{d^2y}{dx^2}$ is

(a) $n(n-1)y$ (b) $n(n+1)y$

(c) ny (d) n^2y

54. If $x = a\,t^2,\, y = 2\,a\,t$, then $\dfrac{d^2y}{dx^2}$ is

(a) $-\dfrac{1}{t^2}$ (b) $\dfrac{1}{2\,t^3}$

(c) $-\dfrac{1}{t^3}$ (d) $-\dfrac{1}{2\,a\,t^3}$

55. If $y = a^x$, then $\dfrac{d^2y}{dx^2}$ equals

(a) $a^x (\log a)^2$ (b) $a^{2x} (\log a)$

(c) $a^x \log a$ (d) none of these

56. If $x = t^2,\, y = t^3$, then $\dfrac{d^2y}{dx^2}$ is equal to

(a) $\dfrac{3}{2}$ (b) $\dfrac{3}{4\,t}$

(c) $\dfrac{3}{2\,t}$ (d) $\dfrac{3\,t}{2}$

57. If $x = 2\cos t - \cos 2\,t,\, y = 2\sin t - \sin 2\,t$, then the value of $\dfrac{d^2y}{dx^2}$ at $t = \dfrac{\pi}{2}$ is

(a) $\dfrac{3}{2}$ (b) $-\dfrac{5}{2}$

(c) $\dfrac{5}{2}$ (d) $-\dfrac{3}{2}$

58. $\dfrac{d^{20}}{dx^{20}}(2\cos x \cos 3\,x)$ is

(a) $2^{20}(\cos 2\,x - 2^{20}\cos 4\,x)$ (b) $2^{20}(\cos 2\,x + 2^{20}\cos 4\,x)$

(c) $2^{20}(\sin 2\,x + 2^{20}\sin 4\,x)$ (d) $2^{20}(\sin 2\,x - 2^{20}\sin 4\,x)$

59. Let $[\,x\,]$ denotes the greatest integer $\le x$, and $f(x) = [\,\tan^2 x\,]$. Then

(a) $\underset{x \to 0}{\text{Lt}} f(x)$ does not exist (b) $f(x)$ is continuous at $x = 0$

(c) $f(x)$ is not differentiable at $x = 0$ (d) $f'(0) = 1$

60. Let $f(x)$ be a quadratic expression which is positive for all real x.
If $g(x) = f(x) + f'(x) + f''(x)$, then for any real x,

(a) $g(x) < 0$ (b) $g(x) > 0$

(c) $g(x) = 0$ (d) $g(x) \ge 0$

61. If $f : (-\infty, -1) \cup [1, \infty) \to [0, \pi]$ is $f(x) = \sec^{-1} x$, then $f'(x)$ is

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

(c) $\dfrac{1}{|x|\sqrt{x^2 - 1}}$ (d) $\dfrac{1}{|x|\sqrt{x^2 - 1}}$

62. If the function is defined by $f(x) = \dfrac{x}{1 + |x|}$, then at what points is f differentiable ?

(a) everywhere (b) except at $x = \pm 1$

(c) except at $x = 0$ (d) except at $x = 0$ or ± 1.

63. The value of the derivative of $|x - 1| + |x - 3|$ at $x = 2$ is

(a) -2 (b) 0

(c) 2 (d) not defined

64. $\dfrac{d}{dx}\left\{\operatorname{cosec}^{-1}\left(\dfrac{1 + x^2}{2x}\right)\right\}$ is equal to

(a) $-\dfrac{2}{1 + x^2}, x \neq 0$ (b) $\dfrac{2}{1 + x^2}, x \neq 0$

(c) $\dfrac{2(1 - x^2)}{(1 + x^2)|1 - x^2|}, x \neq 0, \pm 1$ (d) none of these

65. Let $f(x) = x|x|$. The set of point where $f(x)$ is twice differentiable is

(a) $(-\infty, \infty)$ (b) $(-\infty, 0)$

(c) $(0, \infty)$ (d) $\mathbf{R} - \{0\}$

66. Let $f(x) = \begin{cases} (x-1)\sin\dfrac{1}{x-1}, & \text{if } x \neq 1 \\ 0, & \text{if } x = 1 \end{cases}$

Then which one of the following is true ?

(a) f is differentiable at $x = 1$ but not at $x = 0$

(b) f is neither differentiable at $x = 0$ nor at $x = 1$

(c) f is differentiable at $x = 0$ and at $x = 1$

(d) f is differentiable at $x = 0$ but not at $x = 1$

67. A value of c for which the conclusion of Mean Value Theorem holds for the function $f(x) = \log_c x$ on the interval $[1, 3]$ is

(a) $2\log_3 e$ (b) $\dfrac{1}{2}\log_e 3$

(c) $\log_3 e$

68. The set of points, where $f(x) = \dfrac{x}{1+|x|}$ is differentiable is

(a) $(-\infty, -1) \cup (-1, \infty)$
(b) $(-\infty, \infty)$
(c) $(0, \infty)$
(d) $(-\infty, 0) \cup (0, \infty)$

69. If $x^m y^n = (x+y)^{m+n}$, then $\dfrac{dy}{dx}$ is

(a) $\dfrac{x+y}{xy}$
(b) xy
(c) $\dfrac{x}{y}$
(d) $\dfrac{y}{x}$

70. Let $f(x)$ be differentiable for all x. If $f(1) = -2$ and $f'(x) \geq 2$ for $x \in [1, 6]$, then

(a) $f(6) = 5$
(b) $f(6) < 5$
(c) $f(6) < 8$
(d) $f(6) \geq 8$

71. If f is a real-valued differentiable function satisfying

$|f(x) - f(y)| \leq (x-y)^2$, $x, y \in R$ and $f(0) = 0$, then $f(1)$ equals

(a) 1
(b) 2
(c) 0
(d) -1

72. If $x = e^{y+e^{y+\dots\text{to }\infty}}$, $x > 0$, then $\dfrac{dy}{dx}$ is

(a) $\dfrac{x}{1+x}$
(b) $\dfrac{1}{x}$
(c) $\dfrac{1-x}{x}$
(d) $\dfrac{1+x}{x}$

73. Let $f(x)$ be a polynomial function of second degree. If $f(1) = f(-1)$ and a, b, c are in A.P., then $f'(a), f'(b)$ and $f'(c)$ are in

(a) A.P.
(b) G.P.
(c) H.P.
(d) Arithmetic-Geometric Progression

74. If $f(x) = x^n$, then the value of

$f(1) - \dfrac{f'(1)}{1!} + \dfrac{f''(1)}{2!} - \dfrac{f'''(1)}{3!} + \dots + \dfrac{(-1)^n f^n(1)}{n!}$ is

(a) 2^n
(b) 2^{n-1}
(c) 0
(d) 1

75. If $f(x) = \begin{cases} x\, e^{-\left(\frac{1}{|x|}+\frac{1}{x}\right)}, & x \neq 0, \\ 0, & x = 0 \end{cases}$

then $f(x)$ is

(*a*) continuous as well as differentiable for all x

(*b*) continuous for all x but not differentiable at $x = 0$

(*c*) neither differentiable nor continuous at $x = 0$

(*d*) discontinuous everywhere

76. If $y = (x + \sqrt{1+x^2})^n$, then $(1+x^2)\dfrac{d^2y}{dx^2} + x\dfrac{dy}{dx}$ is

(*a*) $n^2 y$

(*b*) $-n^2 y$

(*c*) $-y$

(*d*) $2x^2 y$

77. If $\sin y = x \sin(a+y)$, then $\dfrac{dy}{dx}$ is

(*a*) $\dfrac{\sin a}{\sin^2(a+y)}$

(*b*) $\dfrac{\sin^2(a+y)}{\sin a}$

(*c*) $\sin a \sin^2(a+y)$

(*d*) $\dfrac{\sin^2(a-y)}{\sin a}$

78. If $x^y = e^{x-y}$, then $\dfrac{dy}{dx}$ is

(*a*) $\dfrac{1+x}{1+\log x}$

(*b*) $\dfrac{1-\log x}{1+\log x}$

(*c*) not defined

(*d*) $\dfrac{\log x}{(1+\log x)^2}$

79. The two curves $x^3 - 3xy^2 + 2 = 0$ and $3x^2y - y^3 - 2 = 0$

(*a*) cut at right angle

(*b*) touch each other

(*c*) cut at an angle $\dfrac{\pi}{3}$

(*d*) cut at an angle $\dfrac{\pi}{4}$

80. Let $f(2) = 4$ and $f'(2) = 4$. Then, $\underset{x \to 2}{\text{Lt}} \dfrac{x f(2) - 2 f(x)}{x - 2}$ is given by

(*a*) 2

(*b*) -2

(*c*) -4

(*d*) 3

81. Let y be an implicit function of x defined by $x^{2x} - 2x^x \cot y - 1 = 0$. Then $y'(1)$ equals

(a) -1 (b) 1

(c) $\log 2$ (d) $-\log 2$

82. If $f:(-1, 1) \to R$ be a differentiable function with $f(0) = -1$ and $f'(0) = 1$. Let $g(x) = [f(2f(x)+2)]^2$. Then $g'(0)$ is equal to

(a) 4 (b) -4

(c) 0 (d) -2

83. Suppose $f(x)$ is differentiable at $x = 1$ and $\underset{h \to 0}{\text{Lt}} \frac{1}{h} f(1+h) = 5$, then $f'(1)$ equals

(a) 6 (b) 5

(c) 4 (d) 3

ANSWERS

1.	(b)	2.	(a)	3.	(a)	4.	(c)	5.	(d)	6.	(c)
7.	(b)	8.	(d)	9.	(c)	10.	(b)	11.	(b)	12.	(a)
13.	(c)	14.	(c)	15.	(a)	16.	(b)	17.	(a)	18.	(a)
19.	(d)	20.	(c)	21.	(d)	22.	(b)	23.	(b)	24.	(a)
25.	(d)	26.	(b)	27.	(d)	28.	(b)	29.	(a)	30.	(a)
31.	(d)	32.	(b)	33.	(b)	34.	(c)	35.	(d)	36.	(c)
37.	(c)	38.	(a)	39.	(b)	40.	(a)	41.	(a)	42.	(c)
43.	(b)	44.	(d)	45.	(a)	46.	(b)	47.	(b)	48.	(d)
49.	(b)	50.	(c)	51.	(b)	52.	(d)	53.	(b)	54.	(d)
55.	(a)	56.	(b)	57.	(d)	58.	(b)	59.	(b)	60.	(b)
61.	(c)	62.	(a)	63.	(b)	64.	(c)	65.	(d)	66.	(d)
67.	(a)	68.	(b)	69.	(d)	70.	(d)	71.	(c)	72.	(c)
73.	(a)	74.	(c)	75.	(b)	76.	(a)	77.	(b)	78.	(d)
79.	(a)	80.	(c)	81.	(a)	82.	(b)	83.	(b)		