Chapter 3

INTEGRATION

OBJECTIVE

(1) $\int a^x \, dx =$ ________

(a) $\frac{a^x}{\ell na} + c$ (b) $\frac{\ell na}{a^x} + c$

(c) $a^x \, \ell na + c$ (d) $a^x + c$

(2) $\int e^x \left(\frac{1}{x} - \frac{1}{x^2}\right) dx =$ ________

(a) $\ell nx + c$ (b) $e^x \frac{1}{x} + c$

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

(3) $\int \frac{\sin x}{1 - \cos x} dx =$ ________

(a) $\frac{(1 - \cos x)^2}{2} + c$ (b) $\ell n\,(1 - \cos x) + c$

(c) $\ell n \sin x$ (d) none

(4) $\int \frac{e^{\tan^{-1} x}}{1 + x^2} dx =$ ________

(a) $(e^{\tan^{-1} x})^2 + c$ (b) $\frac{1}{2} e^{\tan^{-1} x} + c$

(c) $xe^{\tan^{-1} x} + c$ (d) $e^{\tan^{-1} x} + c$

(5) $\int \sec x \, dx =$ ________ ***(Lahore Board 2014)***

(a) $\sec x \tan x + c$ (b) $\tan^2 x + c$

(c) $\ell n\,|\sec x + \tan x| + c$ (d) none

(6) $\int (f(x)^n\, f'(x)\, dx =$ _______

(a) $\dfrac{(f(x))^{n+1}}{n+1} + c$ (b) $\dfrac{(f(x))^{n}}{n} + c$

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

(7) $\int \dfrac{\sec^2 x}{\tan x}\, dx =$ ________

(a) $\ell n \tan x + c$ (b) $\ell n \sec^2 x + c$

(c) $(\sec^2 x)^2 + c$ (d) none

(8) ________ is inverse process of differentiation.

(a) linear programming (b) integration

(c) limit (d) none

(9) If $\dfrac{dy}{dx}(\ell nx) = \dfrac{1}{x}$, then $\int \dfrac{1}{x}\, dx =$ ________

(a) $\ell nx + c$ (b) $x^{-1} + c$

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

(10) $\int -3x^{-4}\, dx =$ _______

(a) $x^{-3} + c$ (b) 0

(c) 1 (d) none of these

(11) To evaluate $\int \dfrac{1}{\sqrt{a^2 + x^2}}\, dx$, the best substitution is

(a) $x = a \cos \theta$ (b) $x = a \sec \theta$

(c) $x = a \tan \theta$ (d) $x = \sin \theta$

(12) $\int \dfrac{1}{x \ell n\, x}\, dx =$ ________ ***(Lahore Board 2014)***

(a) $\frac{1}{x}$ (b) ℓnx

(c) $\ell nx\,(\ell nx) + c$ (d) $\frac{\frac{1}{x}}{\ell nx}$

(13) If $a < c < b$ $\int_a^b f(x)\,dx = \int_a^c f(x)\,dx +$ ______

(a) c (b) $\int_a^b f(x)\,dx$

(c) $\int_c^b f(x)\,dx$ (d) $\int_b^c f(x)\,dx$

(14) $\int (x^2 + e^x)\,dx =$_______

(a) $e^x + \frac{x^3}{3} + c$ (b) $\frac{x^3}{3} + c$

(c) $x^2e^x + c$ (d) none

(15) If $f(\lambda x, \lambda y) = \lambda^n f(x, y)$, then f(x, y) is a homogenous function of degree _______.

(Lahore Board 2013)

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

(c) $n + 1$ (d) $n - 2$

(16) Order of differential equation $x^2 (2y + 1) \frac{d}{dx} - 1 = 0$ is

(a) 1^{st} (b) 2^{nd}

(c) 3^{rd} (d) none

(17) $\int_a^b f(x)\,dx =$ _______

(a) $f'(x)\,dx$ (b) $\frac{(f(x))^2}{2} + c$

(c) $f(b) - f(a)$ (d) $f(b - a)$

(18) $\int e^{nx} dx =$_______ ***(Lahore Board 2006)***

(a) $e^{nx} + c$ (b) $\frac{e^{nx}}{n} + c$

(c) $\ell n e^{nx} + c$ (d) $e^{nx+1} + c$

(19) $\int \frac{dx}{\sqrt{a^2 - x^2}} dx =$_______ ***(Lahore Board 2006)***

(a) $\sin^{-1}\frac{a}{x} + c$ (b) $\sin^{-1}\frac{x}{a} + c$

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

(20) A differential equation having order ______ is called a second order differential equation.

(a) one (b) two

(c) zero (d) none

(21) $\int e^x (x+1)\, dx =$_______

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

(c) $xe^x + c$ (d) none

(22) The definite integral $\int_a^b f(x)\, dx$ represents the ________ above the x-axis and under the curve $y = f(x)$ from $x = a$ to $x = b$.

(a) Area (b) integral

(c) function (d) none

(23) $\int f(x)\, dx =$_______ if $f(x) = e^{x\ell na}$

(a) $a^x + c$ (b) $e^{x\ell na} + c$

(c) $\frac{a^x}{\ell na} + c$ (d) none

(24) $\int_0^{\pi/4} \sec^2 x \, dx =$_______

(a) 0 (b) 90^o

(c) 1 (d) none

(25) $\int \frac{f^{/}(x)}{f(x)} dx =$_______

(a) $(f'(x))^2 + c$ (b) $\ell n \, f(x) + c$

(c) $\frac{1}{f(x)} + c$ (d) none

(26) $\int_0^1 \frac{dx}{\sqrt{1-x^2}} =$_______ ***(Lahore Board 2013)***

(a) $\frac{\pi}{4}$ (b) $\frac{\pi}{3}$

(c) $\frac{\pi}{2}$ (d) π

(27) $\int x^{-1} dx =$_______ ***(Lahore Board 2007)***

(a) 0 (b) $-x^{-2}$

(c) $\frac{x^{-2}}{0}$ (d) $\ell nx + c$

(28) Differential of y is denoted by _______ ***(Lahore Board 2007)***

(a) dy^1 (b) $\frac{dy}{dx}$

(c) dy (d) dx

(29) $\int u \, dv =$_______

(a) $\frac{u^2}{2}+c$ (b) $uv-\int v\,du+c$

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

(30) $\int -\sin x\ dx =$_______ .

(a) $\sin x + c$ (b) $\cos x + c$

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

(31) $\int 3^x\ dx =$_______

(a) $x3^{x-1}+c$ (b) $3^x \ell n3 + c$

(c) $\frac{3^x}{\ell n3}+C$ (d) none

(32) $\int_{-\pi}^{\pi} \cos x\ dx =$_______

(a) 0 (b) 1

(c) -1 (d) 2

(33) $\int \sec 5x\ \tan 5x\ dx$ ***(Lahore Board 2008)***

(a) $5\sec 5x \tan 5x + c$ (b) $\frac{1}{5}\sec x + c$

(c) $\frac{\sec 5x}{5}+c$ (d) $\frac{\tan 5x}{5}+c$

(34) $\int \cos x\left(\frac{\ell n \sin x}{\sin x}\right) dx =$ _________ ***(Lahore Board 2008)***

(a) $\ell n(\sin x)^2 + c$ (b) $\frac{1}{2}\ell n(\sin x)^2 + c$

(c) $(\ell n \sin x)^2 + c$ (d) none

(35) $\int xe^x \, dx =$ _______ ***(Lahore Board 2008, Gujranwala Board 2010)***

(a) $xe^x + e^x + c$ (b) $e^x + x + c$

(c) $xe^x - e^x + c$ (d) $xe^x + c$

(36) $\int_0^{1/\sqrt{3}} \frac{dx}{1+x^2} =$ _______ ***(Lahore Board 2008)***

(a) $\frac{\pi}{2}$ (b) $\frac{\pi}{6}$

(c) $\frac{\pi}{4}$ (d) $\frac{\pi}{3}$

(37) $\int 3\operatorname{cosec}^2(3x)\, dx =$ _______

(a) $-\cot(3x) + c$ (b) $-\cos 3x + c$

(c) $\cot 3x + c$ (d) $\frac{1}{3}\cot 3x + c$

(38) If $\int_{-2}^{1} f(x)dx = 5$, $\int_{1}^{3} f(x)dx = 3$, then $\int_{-2}^{3} f(x)dx =$ _______ ***(Lahore Board 2011, -12)***

(a) 8 (b) 5

(c) 3 (d) 1

(39) $\int \frac{\sec^2 x}{\tan x} dx + \int \frac{\operatorname{cosec}^2 x}{\cot x} dx =$ _______ ***(Lahore Board 2009)***

(a) $\ell n \tan x + c$ (b) $\ell n \cot x + c$

(c) $2\ell n \cot x + c$ (d) $2\ell n \tan x + c$

(40) $\int e^{ax+b} \, dx =$ _______ ***(Lahore Board 2009)***

(a) $\frac{e^{ax+b}}{b} + c$ (b) $\frac{e^{ax+b}}{a} + c$

(c) $e^{ax+b} + c$ (d) $\frac{e^{ax+b}}{a+b} + c$

(41) If $\int_{-1}^{2} (3x^2 + 2x + k)\, dx = 12$ then $k =$ _______ ***(Lahore Board 2009)***

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

(42) $\int_{-\infty}^{\infty} \frac{dx}{1+x^2} =$ __________ ***(Lahore Board 2009)***

(a) $\frac{\pi}{6}$ (b) $\frac{\pi}{4}$
(c) $\frac{\pi}{3}$ (d) π

(43) $\int \left(1 - \frac{\sin 2x}{\cos^2 x}\right) dx =$ ________

(a) $\ell n\,(x \sin x) + c$ (b) $\ell n\,(x \sin^2 x) + c$
(c) $\ell n\,(e^x \cos^2 x) + c$ (d) $\ell n\,(x \cos^2 x) + c$

(44) Solution of $ydx + x\,dy = 0$ is _______ ***(Lahore Board 2010, 2014)***

(a) $xy = c$ (b) $\ell n\,xy = c$
(c) $\ell n \frac{x}{y} = c$ (d) none of these

(45) $\int_0^{1/\sqrt{2}} \frac{dx}{\sqrt{1-x^2}} =$ _______ ***(Gujranwala Board 2009)***

(a) $\frac{\pi}{6}$ (b) $\frac{\pi}{4}$
(c) $\frac{\pi}{3}$ (d) π

(46) If k is a constant then $\int k\,f(x)\,dx =$ _______

(a) $\int f(x)\,dx$ (b) $k\int f(x)\,dx$
(c) $k^2\int f(x)\,dx$ (d) none of these

(47) The slope of tangent at any point on the curve is given by $\frac{dy}{dx} = 2x - 2$, then equation of the curve if $y = 0$ when $x = -1$

(a) $y = x^2 + 2x - 3$ (b) $y = x^2 + 2x + 3$
(c) $y = x^2 - 2x + 3$ (d) $y = x^2 - 2x - 3$

(48) The area between x-axis and the curve $y = x^2 + 1$ from $x = 1$ to $x = 2$ is equal to ________. ***(Lahore Board 2011)***

(a) $\frac{10}{2}$ (b) $\frac{10}{3}$

(c) $\frac{10}{4}$ (d) $\frac{10}{7}$

(49) Solution of $\frac{dy}{dx} = \frac{1}{\sqrt{x^2 - 1}}$ is ________ ***(Lahore Board 2009)***

(a) $y = \sin h^{-1} x + c$ (b) $y = \cos h^{-1} x + c$

(c) $y = \tan h^{-1} x + c$ (d) $y = \cos^{-1} x + c$

(50) $\int x \cos x \, dx =$ ________

(a) $x \sin x + \cos x + c$ (b) $-x \sin x + \cos x + c$

(c) $x \sin x - \cos x + c$ (d) none of these

(51) $\int \frac{1}{\sqrt{a^2 - x^2}} dx =$ ________

(a) $\frac{1}{a} \sin^{-1} \frac{x}{a} + c$ (b) $a \sin^{-1} \frac{x}{a} + c$

(c) $\sin^{-1} \frac{x}{a} + c$ (d) none

(52) $\int \cot^2 x \, dx =$ ________

(a) $x - \cot x + c$ (b) $-\cot x - x + c$

(c) $\operatorname{cosec}^2 x + c$ (d) none

(53) $\int \frac{1}{\sqrt{x^2 + a^2}} dx =$ ________

(a) $\tan^{-1} \frac{x}{a}$ (b) $\frac{1}{a} \tan^{-1} \frac{x}{a}$

(c) $\ln (x + \sqrt{x^2 + a^2})$ (d) none

(54) $\int e^{-x} (\cos x - \sin x) dx =$ ________

(a) $e^{-x} \cos x + c$ (b) $-e^{-x} \sin x + c$

(c) $e^{-x} \sin x + c$ (d) none

(55) $\int 6(x^3 - 3x^2)^5 (3x^2 - 6x) dx =$ ________

(a) $\dfrac{(x^3-3x^2)^6}{6}+c$ (b) $(x^3-3x^2)^6+c$

(c) $\dfrac{(x^3-3x^2)^4}{4}+c$ (d) $5(x^3-3x^2)^4+c$

(56) $\int\left(\dfrac{1}{x}-\dfrac{\operatorname{cosec}^2 x}{\cot x}\right)dx =$ ________

(a) $\ell nx+\tan x+c$ (b) $\ell nx-\cot x+c$

(c) $\ell n(x\tan x)+c$ (d) $\ell n(x\cot x)+c$

(57) $\int\left(\dfrac{1}{x}-\dfrac{\sin 2x}{\cos^2 x}\right)dx =$ ________ ***(Lahore Board 2009)***

(a) $\ell n(x\sin x)+c$ (b) $\ell n(x\sin^2 x)+c$

(c) $\ell n(x\cos^2 x)+c$ (d) $\ell n(x\cot x)+c$

(58) $\int\left(e^x-\dfrac{\sin 2x}{\cos^2 x}\right)dx =$ ________

(a) $\ell n(x\sin x)+c$ (b) $\ell n(x\sin^2 x)+c$

(c) $\ell n(x\cos^2 x)+c$ (d) $e^x+\ell n(\cos^2 x)+c$

(59) $\int e^{\sin x}\cos x\,dx =$ ________

(a) $\ell n\sin x+c$ (b) $\ell n\cos x+c$

(c) $e^{\cos x}+c$ (d) $e^{\sin x}+c$

(60) $\int a^{f(x)}f'(x)\ dx =$ ________

(a) $\dfrac{1}{a^{f(x)}\ \ell na}+c$ (b) $\dfrac{\ell na}{a^{f(x)}}+c$

(c) $\dfrac{a^{f(x)}}{\ell na}+c$ (d) $a^{f(x)}\ \ell na+c$

(61) $\int\dfrac{-2x}{\sqrt{9-x^2}}\,dx$

(a) $2\sqrt{9-x^2}+c$ (b) $\frac{1}{3}\tan\frac{x}{3}+c$

(c) $\frac{1}{3}\sin^{-1}\frac{x}{3}$ (d) $\ell n\,(9-x^2)+c$

(62) $\int_0^{1/\sqrt{2}} \frac{dx}{\sqrt{1-x^2}} =$ ______ *(Lahore Board 2009)*

(a) $\frac{\pi}{6}$ (b) $\frac{\pi}{4}$

(c) $\frac{\pi}{3}$ (d) π

(63) The area of region $y = \sin x$ from $[0, \pi]$ is ______

(a) 1 sq. units (b) 2 sq. units

(c) 3 sq. units (d) 4 sq. units

(64) The solution of differential equation $\frac{dy}{dx} = -y$ is *(Lahore Board 2008)*

(a) $y = e^{-x}$ (b) $y = ce^{-x}$

(c) $y = e^{x}$ (d) $y = ce^{x}$

(65) $\int \frac{1-x^2}{1+x^2}\,dx =$ ______

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

(c) $x - \ell n\,(1+x^2)$ (d) none

(66) Degree of $\left(\frac{dy}{dx}\right)^4 + \left(\frac{d^2y}{dx^2}\right)^3 + \left(\frac{dy}{dx}\right)^7 = 7$ is *(Lahore Board 2011)*

(a) 3 (b) 4

(c) 7 (d) 2

(67) Order of differential equation $\left(\frac{dy}{dx}\right)^4 + \left(\frac{d^2y}{dx^2}\right)^3 + \left(\frac{dy}{dx}\right)^7 = 0$ is *(Lahore Board 2011)*

(a) 3 (b) 4

(c) 7 (d) 2

(68) The area bounded by x-axis and the curve $y = 4x - x^2$ is

(a) $\frac{32}{3}$ (b) 32

(c) $\frac{64}{3}$ (d) 64

(69) $\int \frac{dx}{\sqrt{x^2+a^2}} =$ ______ ***(Lahore Board 2009)***

(a) $\sinh^{-1} x$ (b) $\ell n\,|x + \sqrt{x^2 + a^2}\,|$

(c) $\ell n\,|x - \sqrt{x^2 + a^2}\,|$ (d) both a, b

(70) $\int \sin^2 x\,dx =$ ______

(a) $\cos^2 x + c$ (b) $-\cos^2 x + c$

(c) $\frac{1}{2}(x - \sin x \cos x) + c$ (d) None of these

(71) $\int \cot(ax+b)\,dx =$ ______ ***(Lahore Board 2012)***

(a) $a\,\ell n \sin(ax + b) + c$ (b) $\frac{1}{a}\,\ell n \cos(ax + b) + c$

(c) $\frac{1}{a}\,\ell n \sin(ax + b) + c$ (d) $a\,\ell n \cos(ax + b) + c$

(72) $\int_0^{\pi/2} \sin x\;dx =$ ______

(a) 0 (b) 1

(c) $\frac{\pi}{2}$ (d) $\frac{-\pi}{2}$

(73) Degree of differential equation $x^2\left(\frac{dy}{dx}\right)^3 + 5\left(\frac{d^2y}{dx^2}\right) + 7\left(\frac{d^3y}{dx^3}\right) = 0$ is ***(Lahore Board 2012)***

(a) 3 (b) 1

(c) 2 (d) 5

(74) $\int \ell n\,x\;dx =$ ______ $= 0$ is ***(Lahore Board 2011, 2012)***

(a) $x\,\ell nx - x + c$ (b) $x\,\ell nx + x + c$

(c) $\ell nx - x + c$ (d) $\ell nx + x + c$

(75) $\int \tan x\;dx =$ ______ ***(Lahore Board 2011, 2012)***

(a) $\sec^2 x + c$ (b) $\ell n\,|\cos x| + c$

(c) $\ell n\,|\sec x| + c$ (d) $\ell n\,|\sin x| + c$

(76) $\int e^{-x}(\cos x + \sin x)\,dx =$ ______ *(Lahore Board 2012)*

(a) $e^{-x}\sin x + c$ (b) $-e^{-x}\cos x + c$

(c) $-e^{-x}\sin x + c$ (d) $e^{-x}\cos x + c$

(77) $\int x\sqrt{1+2x^2}\,dx$ *(Lahore Board 2012)*

(a) $\frac{1}{4}(1+2x^2)^{3/2} + C$ (b) $\frac{1}{6}(1+2x^2)^{3/2} + C$

(c) $\frac{1}{12}(1+2x^2)^{3/2} + C$ (d) $(1+2x^2)^{3/2} + C$

(78) $\int_0^{\pi} \sin x\,dx =$ ________ *(Lahore Board 2012)*

(a) 0 (b) 2

(c) -2 (d) 1

(79) If α is constant, then $\int \cot\alpha\,dy =$ _____ *(Lahore Board 2013)*

(a) $\sin\alpha + c$ (b) $-\sin\alpha + c$

(c) $y\cot\alpha + c$ (d) $x\sin\alpha + c$

(80) $\int_a^x 3t^2\,dt$ *(Lahore Board 2013)*

(a) $a^3 - x^3$ (b) $a^3 + x^3$

(c) $x^3 - a^3$ (d) $\frac{x^3 + a^3}{3}$

(81) The area between the x – axis and the curve $y = \cos\frac{1}{2}$ from $x = -\pi$ to $x = \pi$ is

(Lahore Board 2013)

(a) 1 (b) 2

(c) 3 (d) 4

(82) $\int e^x\left(\ell n\,x + \frac{1}{x}\right)dx =$ *(Lahore Board 2013)*

(a) $\frac{e^x}{x} + c$ (b) $\ell nx + e^x + c$

(c) $e^x\ell nx + c$ (d) $\ell nx - e^x + c$

(83) $\int \sec^4 x \, dx =$ ________ ***(Lahore Board 2013)***

(a) $\frac{1}{3}\tan^3 x - \tan x + c$ (b) $\frac{1}{3}\tan^3 x + \tan x + c$

(c) $\frac{1}{3}\sec^3 x + c$ (d) $\frac{1}{3}\sec^3 x + \tan x + c$

(84) $\int \tan(ax+b)\,dx =$ ________ ***(Lahore Board 2013)***

(a) $\frac{1}{a}\cos(ax+b) + c$ (b) $\frac{1}{a}\sin(ax+b) + c$

(c) $\frac{1}{b}\ell n\,|\sec(ax+b)| + c$ (d) $\frac{1}{a}\ell n\,|\sec(ax+b)| + c$

(85) $\int e^x(\sin x - \cos x)\,dx$ ***(Lahore Board 2013)***

(a) $e^x \cos x + c$ (b) $e^x \sin x + c$

(c) $-e^x \cos x + c$ (d) $e^x \sin x + c$

(86) $\int_{-1}^{1} \frac{1}{x\sqrt{x^2-1}}\,dx =$ ***(Lahore Board 2013)***

(a) $-\pi$ (b) $\frac{\pi}{3}$

(c) π (d) $\frac{\pi}{4}$

(87) $\int \cos^2 ax\,dx =$ __________ ***(Lahore Board 2013)***

(a) $\cos^3\left(\frac{ax}{3}\right) + c$ (b) $\frac{1}{3}\cos^3(ax) + c$

(c) $\frac{x}{2} + \frac{\sin 2ax}{4a} + c$ (d) $\frac{\cos ax}{2a} + c$

(88) $\int \tan^{-1}\sqrt{\frac{1-\cos 2x}{1+\cos 2x}}\,dx =$ _________ ***(Lahore Board 2013)***

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

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

(89) $\int (2x+3)^{1/2}\,dx$ is equal to

(a) $\frac{1}{2}(2x+3)^{1/2}+C$ (b) $\frac{2}{3}(2x+3)^{3/2}+C$

(c) $\frac{1}{3}(2x+3)^{1/2}+C$ (d) $\frac{1}{3}(2x+3)^{3/2}+C$

(90) Anti derivative of cot x is equal to

(a) $\ln\cos x + C$ (b) $\ln\sin x + C$

(c) $-\ln\cos x + C$ (d) $-\ln\sin x + C$

(91) $\int \frac{1}{x\ln x}\,dx$ equals

(a) $\ln(\ln x) + C$ (b) $\ln x + C$

(c) $\ln\left(\frac{1}{x}\right) + C$ (d) $\ln\left(\ln\frac{1}{x}\right) + C$

(92) $\int_0^3 \frac{1}{x^2+9}\,dx$ equals

(a) $\frac{12}{\pi}$ (b) $\frac{\pi}{12}$

(c) $\frac{-12}{\pi}$ (d) $-\frac{\pi}{12}$

(93) $\int \frac{-1}{x\sqrt{x^2-1}}\,dx =$ ________

(a) $\tan^{-1}x + C$ (b) $\operatorname{cosec}^{-1}x + C$

(c) $\sec^{-1}x + C$ (d) $\sin^{-1}x + C$

(94) For $n \neq -1$, $\int (f(x))^n f'(x)\,dx =$

(a) $\frac{f'(x)}{n} + C$ (b) $\frac{(f(x))^{n-1}}{n-1} + C$

(c) $\frac{(f(x))^{n+1}}{n+1} + C$ (d) $(f(x))^{n+1} + C$

(95) $\int_{-\pi}^{\pi} \sin x\,dx =$ ________

(a) 0 (b) 6

(c) 8 (d) 16

1.	a	2.	b	3.	b	4.	d	5.	c	6.	a
7.	a	8.	b	9.	a	10.	a	11.	c	12.	c
13.	c	14.	a	15.	b	16.	a	17.	c	18.	b
19.	b	20.	b	21.	c	22.	a	23.	a	24.	c
25.	b	26.	c	27.	d	28.	c	29.	b	30.	b
31.	c	32.	a	33.	c	34.	b	35.	a	36.	d
37.	a	38.	a	39.	d	40.	b	41.	b	42.	d
43.	c	44.	b	45.	b	46.	b	47.	d	48.	b
49.	b	50.	a	51.	b	52.	b	53.	c	54.	c
55.	b	56.	d	57.	c	58.	d	59.	d	60.	c
61.	a	62.	b	63.	b	64.	b	65.	b	66.	a
67.	d	68.	a	69.	d	70.	c	71.	c	72.	b
73.	c	74.	a	75.	c	76.	b	77.	b	78.	b
79.	c	80.	c	81.	d	82.	c	83.	b	84.	d
85.	c	86.	c	87.	c	88.	a	89.	d	90.	b
91.	a	92.	b	93.	b	94.	c	95.	a		