Robertson-Walker Metric:

$\boxed{x^{\mu}}$

$x^0 = t.$
$x^1 = r.$
$x^2 = \theta.$
$x^3 = \phi.$

$\boxed{g_{\mu\nu}}$

$g_{00} = 1.$
$g_{01} = 0.$
$g_{02} = 0.$
$g_{03} = 0.$
$g_{10} = 0.$
$g_{11} = \frac{R(t)^2}{-1 + \kappa r^2}.$
$g_{12} = 0.$
$g_{13} = 0.$
$g_{20} = 0.$
$g_{21} = 0.$
$g_{22} = -R(t)^2 r^2.$
$g_{23} = 0.$
$g_{30} = 0.$
$g_{31} = 0.$
$g_{32} = 0.$
$g_{33} = -R(t)^2 \sin(\theta)^2 r^2.$

$\boxed{\surd = \sqrt{-\det(g_{\mu\nu})}}$

$\surd = \sqrt{-\frac{R(t)^6 \sin(\theta)^2 r^4}{-1 + \kappa r^2}}.$

$\boxed{g^{\mu\nu}}$

$g^{00} = 1.$
$g^{01} = 0.$
$g^{02} = 0.$
$g^{03} = 0.$
$g^{10} = 0.$
$g^{11} = \frac{-1 + \kappa r^2}{R(t)^2}.$
$g^{12} = 0.$
$g^{13} = 0.$
$g^{20} = 0.$
$g^{21} = 0.$
$g^{22} = -\frac{1}{R(t)^2 r^2}.$
$g^{23} = 0.$
$g^{30} = 0.$
$g^{31} = 0.$
$g^{32} = 0.$
$g^{33} = -\frac{1}{R(t)^2 \sin(\theta)^2 r^2}.$

$\boxed{\Gamma^{\sigma}_{\mu\nu}}$

$\Gamma^0_{00} = 0.$
$\Gamma^0_{01} = 0.$
$\Gamma^0_{02} = 0.$
$\Gamma^0_{03} = 0.$
$\Gamma^0_{10} = 0.$
$\Gamma^0_{11} = -\frac{R(t)\dot{R}(t)}{-1 + \kappa r^2}.$
$\Gamma^0_{12} = 0.$
$\Gamma^0_{13} = 0.$
$\Gamma^0_{20} = 0.$
$\Gamma^0_{21} = 0.$
$\Gamma^0_{22} = R(t) r^2 \dot{R}(t).$
$\Gamma^0_{23} = 0.$
$\Gamma^0_{30} = 0.$
$\Gamma^0_{31} = 0.$
$\Gamma^0_{32} = 0.$
$\Gamma^0_{33} = R(t) \sin(\theta)^2 r^2 \dot{R}(t).$

$\Gamma^1_{00} = 0.$
$\Gamma^1_{01} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^1_{02} = 0.$
$\Gamma^1_{03} = 0.$
$\Gamma^1_{10} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^1_{11} = -\frac{\kappa r}{-1 + \kappa r^2}.$
$\Gamma^1_{12} = 0.$
$\Gamma^1_{13} = 0.$
$\Gamma^1_{20} = 0.$
$\Gamma^1_{21} = 0.$
$\Gamma^1_{22} = (-1 + \kappa r^2) r.$
$\Gamma^1_{23} = 0.$
$\Gamma^1_{30} = 0.$
$\Gamma^1_{31} = 0.$
$\Gamma^1_{32} = 0.$
$\Gamma^1_{33} = (-1 + \kappa r^2) \sin(\theta)^2 r.$

$\Gamma^{2}_{00} = 0.$
$\Gamma^{2}_{01} = 0.$
$\Gamma^{2}_{02} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^{2}_{03} = 0.$
$\Gamma^{2}_{10} = 0.$
$\Gamma^{2}_{11} = 0.$
$\Gamma^{2}_{12} = \frac{1}{r}.$
$\Gamma^{2}_{13} = 0.$
$\Gamma^{2}_{20} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^{2}_{21} = \frac{1}{r}.$
$\Gamma^{2}_{22} = 0.$
$\Gamma^{2}_{23} = 0.$
$\Gamma^{2}_{30} = 0.$
$\Gamma^{2}_{31} = 0.$
$\Gamma^{2}_{32} = 0.$
$\Gamma^{2}_{33} = -\cos(\theta)\sin(\theta).$

$\Gamma^{3}_{00} = 0.$
$\Gamma^{3}_{01} = 0.$
$\Gamma^{3}_{02} = 0.$
$\Gamma^{3}_{03} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^{3}_{10} = 0.$
$\Gamma^{3}_{11} = 0.$
$\Gamma^{3}_{12} = 0.$
$\Gamma^{3}_{13} = \frac{1}{r}.$
$\Gamma^{3}_{20} = 0.$
$\Gamma^{3}_{21} = 0.$
$\Gamma^{3}_{22} = 0.$
$\Gamma^{3}_{23} = \frac{\cos(\theta)}{\sin(\theta)}.$
$\Gamma^{3}_{30} = \frac{\dot{R}(t)}{R(t)}.$
$\Gamma^{3}_{31} = \frac{1}{r}.$
$\Gamma^{3}_{32} = \frac{\cos(\theta)}{\sin(\theta)}.$
$\Gamma^{3}_{33} = 0.$

$\boxed{R_{\mu\nu}}$

$R_{00} = 3\frac{\ddot{R}(t)}{R(t)}.$
$R_{01} = 0.$
$R_{02} = 0.$
$R_{03} = 0.$
$R_{10} = 0.$
$R_{11} = \frac{2\kappa + 2\dot{R}(t)^2 + R(t)\ddot{R}(t)}{-1 + \kappa r^2}.$
$R_{12} = 0.$
$R_{13} = 0.$
$R_{20} = 0.$
$R_{21} = 0.$
$R_{22} = -2\kappa r^2 - 2r^2\dot{R}(t)^2 - R(t)\ddot{R}(t)r^2.$
$R_{23} = 0.$
$R_{30} = 0.$
$R_{31} = 0.$
$R_{32} = 0.$
$R_{33} = -R(t)\ddot{R}(t)\sin(\theta)^2 r^2 - 2\kappa\sin(\theta)^2 r^2 - 2\sin(\theta)^2 r^2\dot{R}(t)^2.$

$\boxed{R^{\mu}{}_{\nu}}$

$R^{0}{}_{0} = 3\frac{\ddot{R}(t)}{R(t)}.$
$R^{0}{}_{1} = 0.$
$R^{0}{}_{2} = 0.$
$R^{0}{}_{3} = 0.$
$R^{1}{}_{0} = 0.$
$R^{1}{}_{1} = 2\frac{\kappa}{R(t)^2} + \frac{\ddot{R}(t)}{R(t)} + 2\frac{\dot{R}(t)^2}{R(t)^2}.$
$R^{1}{}_{2} = 0.$
$R^{1}{}_{3} = 0.$
$R^{2}{}_{0} = 0.$
$R^{2}{}_{1} = 0.$
$R^{2}{}_{2} = 2\frac{\kappa}{R(t)^2} + \frac{\ddot{R}(t)}{R(t)} + 2\frac{\dot{R}(t)^2}{R(t)^2}.$
$R^{2}{}_{3} = 0.$
$R^{3}{}_{0} = 0.$
$R^{3}{}_{1} = 0.$
$R^{3}{}_{2} = 0.$
$R^{3}{}_{3} = 2\frac{\kappa}{R(t)^2} + \frac{\ddot{R}(t)}{R(t)} + 2\frac{\dot{R}(t)^2}{R(t)^2}.$

$\boxed{R}$

$R = 6\frac{\kappa}{R(t)^2} + 6\frac{\ddot{R}(t)}{R(t)} + 6\frac{\dot{R}(t)^2}{R(t)^2}.$

$\boxed{G^{\mu}_{\ \nu}}$

$$G^{0}_{\ 0} = -3\frac{\kappa}{R(t)^2} - 3\frac{\dot{R}(t)^2}{R(t)^2}.$$
$$G^{0}_{\ 1} = 0.$$
$$G^{0}_{\ 2} = 0.$$
$$G^{0}_{\ 3} = 0.$$
$$G^{1}_{\ 0} = 0.$$
$$G^{1}_{\ 1} = -\frac{\kappa}{R(t)^2} - 2\frac{\ddot{R}(t)}{R(t)} - \frac{\dot{R}(t)^2}{R(t)^2}.$$
$$G^{1}_{\ 2} = 0.$$
$$G^{1}_{\ 3} = 0.$$
$$G^{2}_{\ 0} = 0.$$
$$G^{2}_{\ 1} = 0.$$
$$G^{2}_{\ 2} = -\frac{\kappa}{R(t)^2} - 2\frac{\ddot{R}(t)}{R(t)} - \frac{\dot{R}(t)^2}{R(t)^2}.$$
$$G^{2}_{\ 3} = 0.$$
$$G^{3}_{\ 0} = 0.$$
$$G^{3}_{\ 1} = 0.$$
$$G^{3}_{\ 2} = 0.$$
$$G^{3}_{\ 3} = -\frac{\kappa}{R(t)^2} - 2\frac{\ddot{R}(t)}{R(t)} - \frac{\dot{R}(t)^2}{R(t)^2}.$$

$\boxed{G}$

$$G = -6\frac{\kappa}{R(t)^2} - 6\frac{\ddot{R}(t)}{R(t)} - 6\frac{\dot{R}(t)^2}{R(t)^2}.$$

$\boxed{G^{\mu}_{\ \nu:\mu} = 0}$

$$G^{\mu}_{\ 0:\mu} = 0.$$
$$G^{\mu}_{\ 1:\mu} = 0.$$
$$G^{\mu}_{\ 2:\mu} = 0.$$
$$G^{\mu}_{\ 3:\mu} = 0.$$

$\boxed{g^{\mu\nu}\,\Gamma^{\lambda}_{\mu\nu} = 0?}$

$$g^{\mu\nu}\,\Gamma^{0}_{\mu\nu} = -\frac{\kappa^2 R(t)^3 r^8 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} + 2\frac{\kappa R(t)^3 \sin(\theta)^4 r^6 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} + 2\frac{\kappa R(t)^3 r^6 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} - \frac{R(t)^3 \sin(\theta)^4 r^4 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} - \frac{R(t)^3 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} - \frac{\kappa^2 R(t)^3 \sin(\theta)^4 r^8 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2} - \frac{R(t)^3 r^4 \dot{R}(t)}{\left(-1+\kappa r^2\right)^2}.$$
$$g^{\mu\nu}\,\Gamma^{1}_{\mu\nu} = \frac{R(t)^2 \sin(\theta)^4 r^3}{\left(-1+\kappa r^2\right)^2} - \frac{\kappa^3 R(t)^2 r^9}{\left(-1+\kappa r^2\right)^2} - 3\frac{\kappa R(t)^2 r^5}{\left(-1+\kappa r^2\right)^2} + \frac{R(t)^2 r^3}{\left(-1+\kappa r^2\right)^2} - \frac{\kappa^3 R(t)^2 \sin(\theta)^4 r^9}{\left(-1+\kappa r^2\right)^2} - 3\frac{\kappa R(t)^2 \sin(\theta)^4 r^5}{\left(-1+\kappa r^2\right)^2} + 3\frac{\kappa^2 R(t)^2 \sin(\theta)^4 r^7}{\left(-1+\kappa r^2\right)^2} + 3\frac{\kappa^2 R(t)^2 r^7}{\left(-1+\kappa r^2\right)^2} - \frac{\kappa R(t)^2 r}{\left(-1+\kappa r^2\right)^2}.$$
$$g^{\mu\nu}\,\Gamma^{2}_{\mu\nu} = \cos(\theta) R(t)^2 \sin(\theta)^3 r^2.$$
$$g^{\mu\nu}\,\Gamma^{3}_{\mu\nu} = 0.$$