```
def derivatives_in_spherical_coordinates():
    Print_Function()
    X = (r,th,phi) = symbols('r theta phi')
    curv = [[r*cos(phi)*sin(th),r*sin(phi)*sin(th),r*cos(th)],[1,r,r*sin(th)]]
    (er,eth,ephi,grad) = MV.setup('e_r e_theta e_phi',metric='[1,1,1]',coords=X,curv=curv)
    f = MV('f','scalar',fct=True)
    A = MV('A','vector',fct=True)
    B = MV('B','grade2',fct=True)
    print 'f =',f
    print 'A =',A
    print 'B =',B
    print 'grad*f =',grad*f
    print 'grad|A =',grad|A
    print '-I*(grad^A) =',-MV.I*(grad^A)
    print 'grad^B =',grad^B
    return
```

Code Output:

$$f = f$$

$$A = A^{r} e_{r} + A^{\theta} e_{\theta} + A^{\phi} e_{\phi}$$

$$B = B^{r\theta} e_{r}\wedge e_{\theta} + B^{r\phi} e_{r}\wedge e_{\phi} + B^{\theta\phi} e_{\theta}\wedge e_{\phi}$$

$$\boldsymbol{\nabla} f = \partial_{r} f e_{r} + \frac{1}{r^{2}} \partial_{\theta} f e_{\theta} + \frac{\partial_{\phi} f}{r^{2} \sin^{2}{\left (\theta \right)}} e_{\phi}$$

$$\boldsymbol{\nabla} \cdot A = \frac{A^{\theta}}{\tan{\left (\theta \right)}} + \partial_{\phi} A^{\phi} + \partial_{r} A^{r} + \partial_{\theta} A^{\theta} + \frac{2 A^{r}}{r}$$

$$-I(\boldsymbol{\nabla} \wedge A) = r^{2} \left(A^{\phi} \sin{\left (2 \theta \right)} - \frac{1}{2} \cos{\left (2 \theta \right)} \partial_{\theta} A^{\phi} + \frac{1}{2} \partial_{\theta} A^{\phi} - \partial_{\phi} A^{\theta}\right) e_{r} + \left(- r^{2} \sin^{2}{\left (\theta \right)} \partial_{r} A^{\phi} - 2 r A^{\phi} \sin^{2}{\left (\theta \right)} + \partial_{\phi} A^{r}\right) e_{\theta} + \left(r^{2} \partial_{r} A^{\theta} + 2 r A^{\theta} - \partial_{\theta} A^{r}\right) e_{\phi}$$

$$\boldsymbol{\nabla} \wedge B = \frac{1}{r^{2}} \left(r^{2} \partial_{r} B^{\theta\phi} + 4 r B^{\theta\phi} - \frac{2 B^{r\phi}}{\tan{\left (\theta \right)}} - \partial_{\theta} B^{r\phi} + \frac{\partial_{\phi} B^{r\theta}}{\sin^{2}{\left (\theta \right)}}\right) e_{r}\wedge e_{\theta}\wedge e_{\phi}$$