In [41]:
```
import numpy as np
```

In [42]:
```
ones_arr=np.ones((3,3))
```

In [43]:
```
ones_arr
```

Out[43]:
```
array([[1., 1., 1.],
       [1., 1., 1.],
       [1., 1., 1.]])
```

In [44]:
```
ones_arr=np.ones((5,5),dtype=int)
```

In [45]:
```
ones_arr
```

Out[45]:
```
array([[1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1]])
```

In [46]:
```
ones_arr*255
```

Out[46]:
```
array([[255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255]])
```

In [47]:
```
import matplotlib.pyplot as plt
```

In [48]:
```
from PIL import Image #
```

In [68]:
```
horse_img=Image.open(r'F:\horse image.JPG')
```

In [69]:
```
horse_img
```

Out[69]:

In [70]:
```
type(horse_img)
```

Out[70]:
```
PIL.JpegImagePlugin.JpegImageFile
```

In [71]:
```
import numpy as np
```

In [72]:
```
horse_arr=np.asarray(horse_img)
horse_arr
```

Out[72]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [73]:
```
type(horse_arr)
```

Out[73]:
```
numpy.ndarray
```

In [74]:
```
horse_arr.shape
```

Out[74]: (2334, 3502, 3)

In [75]:
```
plt.imshow(horse_arr)
```

Out[75]: <matplotlib.image.AxesImage at 0x246ff707170>

In [76]:
```
image_red=horse_arr.copy()
```

In [77]:
```
image_red
```

Out[77]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [78]:
```
horse_red=horse_arr.copy()
```

In [79]:
```
horse_red
```

Out[79]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [80]:
```
horse_arr==horse_red
```

Out[80]:
```
array([[[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       ...,

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]]])
```

In [81]:
```
plt.imshow(horse_red)
```

Out[81]:
```
<matplotlib.image.AxesImage at 0x2468006aed0>
```

In [82]:
```
horse_red.shape
```

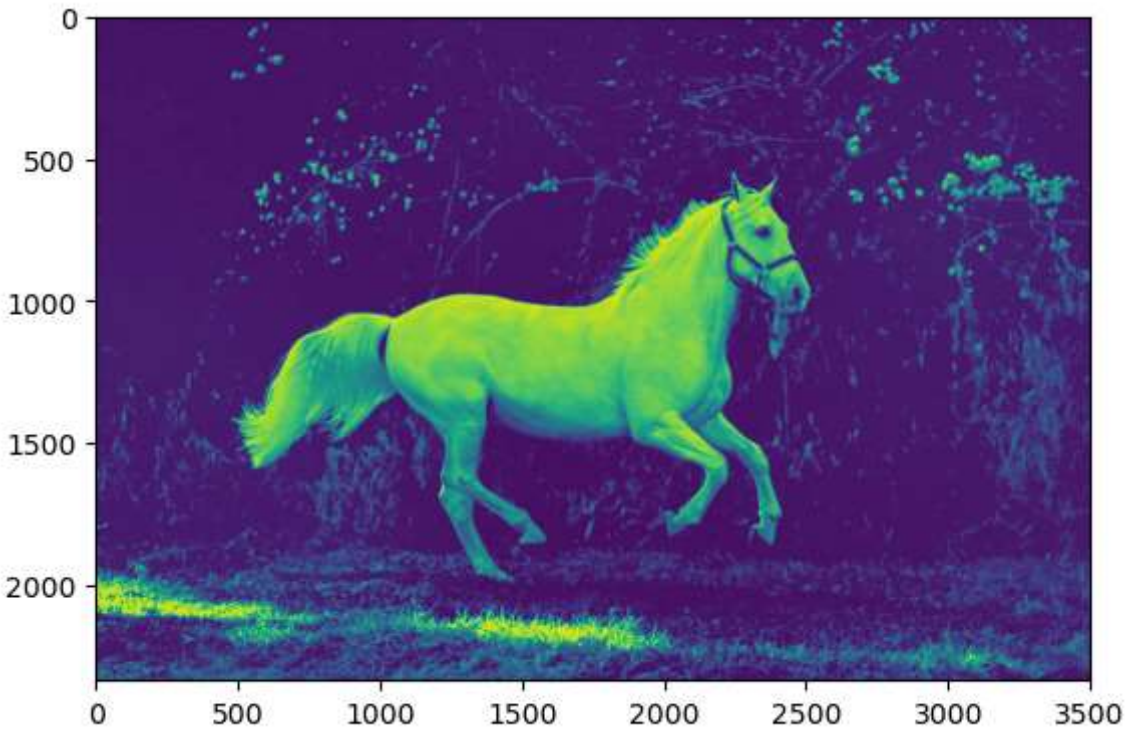
Out[82]: (2334, 3502, 3)

In [84]:
```
plt.imshow(horse_red[:,:,1])
```

Out[84]: <matplotlib.image.AxesImage at 0x2468006bf80>

In [85]:
```
plt.imshow(horse_red[:,:,0])
```

Out[85]: <matplotlib.image.AxesImage at 0x24681131bb0>

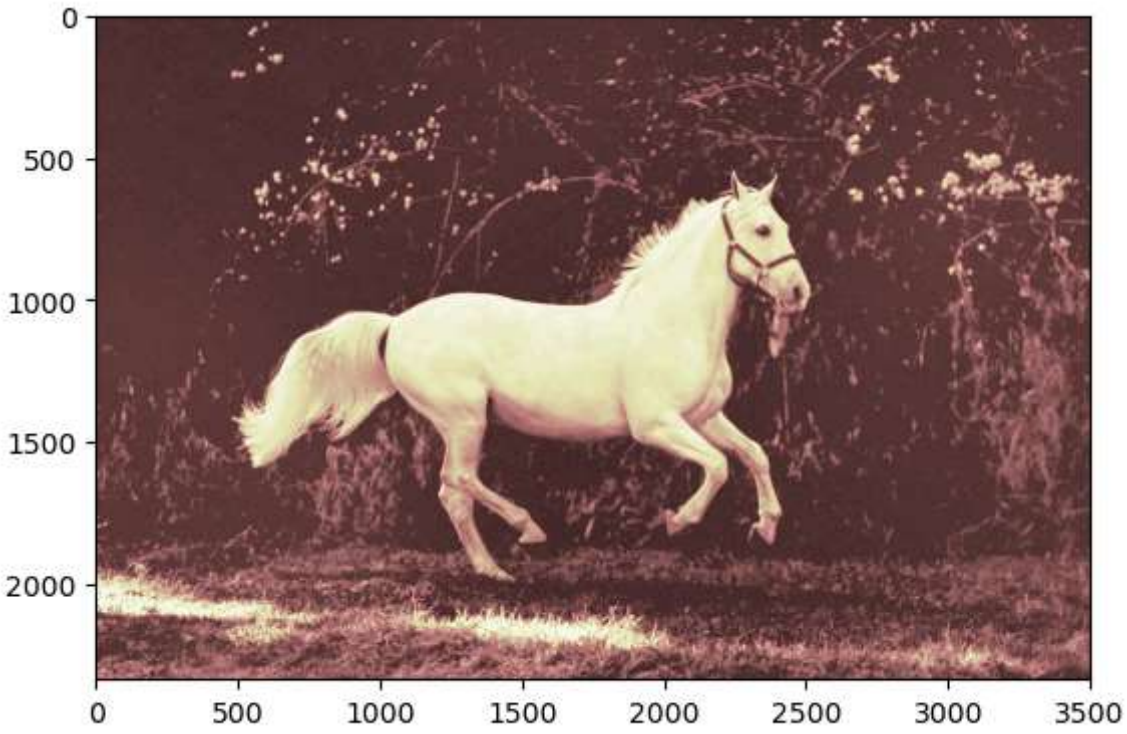


In [86]:
```
horse_red[:,:,0]
```

Out[86]:
```
array([[15, 15, 15, ..., 25, 19, 14],
       [15, 15, 15, ..., 26, 22, 20],
       [15, 15, 15, ..., 28, 25, 24],
       ...,
       [49, 40, 35, ..., 14, 13, 12],
       [45, 38, 31, ..., 11, 12, 16],
       [31, 31, 32, ..., 14, 16, 23]], dtype=uint8)
```

In [87]:
```
plt.imshow(horse_red[:,:,0],cmap='pink')
```

Out[87]: <matplotlib.image.AxesImage at 0x2468114c4d0>



In [89]:
```
plt.imshow(horse_red[:,:,2], cmap='Greys')
```

Out[89]: <matplotlib.image.AxesImage at 0x24681197260>

In [90]:
```
plt.imshow(horse_red[:,:,2], cmap='grey')
```

Out[90]: <matplotlib.image.AxesImage at 0x24681a9b9b0>

In [91]:
```
arr1=np.asarray(horse_img)
```

In [93]:
```
type(arr1)
```

Out[93]:
```
numpy.ndarray
```

In [94]:
```
arr1.shape
```

Out[94]:
```
(2334, 3502, 3)
```

In [95]:
```
horse_red[:,:,2]=0
```

In [96]:
```
plt.imshow(horse_red)
```

Out[96]:
```
<matplotlib.image.AxesImage at 0x24681c65700>
```

In [ ]: