Question 1

Refer to the exhibit.

Exhibit A - Image

5	5	10	20	40	30	30	0	0	...
5	10	20	50	40	25	21	40	0	...
10	20	52	68	31	27	29	34	50	...
37	39	47	29	27	7	7	8	35	...
30	31	40	15	11	9	3	0	0	...
25	29	44	12	10	6	0	0	0	...
25	15	10	0	0	0	0	0	0	...
...	...	...	...	...	...	...	...	...	...

Exhibit B - Filter

0	0	0	0	0
0	0	0	0	1
0	0	0	1	0
0	0	1	0	0
0	1	0	0	0

The pixel intensity values for the top left corner of a 224x224 grey scale image are provided in Exhibit A This image is provided as input to the convolutional filter (Exhibit B) with equal zero padding of size 2 on all sides

What is the first value in the feature map resulting from applying this filler (cross-correlation operation)?

Options:

A- 186

B- 0

C- 10 D. 97

Answer:

A

Question 2

Question Type: **MultipleChoice**

Given the code to add a concatenation layer:

```
AddLayer/model='ExampleModel'
        name='concat1'
        layer={type='concat'}
        srcLayers={"A", "B", "C"};
```

Assume the output dimensions (width*depth):

* source layer A 100*100*5

* source layer B 100*100*5

* source layer C 100*100*3

What is the correct dimension of the output of this concatenation layer?

Options:

A- 100'100'13

B- 300'300'5

C- 100'100'18

D- 300'300'13

Answer:

C

Question 3

Which statement is TRUE concerning the "dropout" option?

Options:

A- It specifies the number of neurons to drop from each layer of the network

B- It specifies the percentage of neurons to drop from a given layer of the network

C- It specifies the percentage of neurons to drop from the entire network

D- It specifies the number of layers to drop from the entire network

Answer:

B

Question 4

Consider a 224x224 image provided as input for training a CNN for image classification A 5x5 filter is to be used with a stride of 1 for the first convolutional layer What size padding should be applied in order to maintain the original resolution to provide as input to the next layer?

[   ]

Enter your numeric answer in the space above.

Answer:

Question 5

Question Type: **MultipleChoice**

Refer to the exhibit.

Exhibit A

Exhibit B

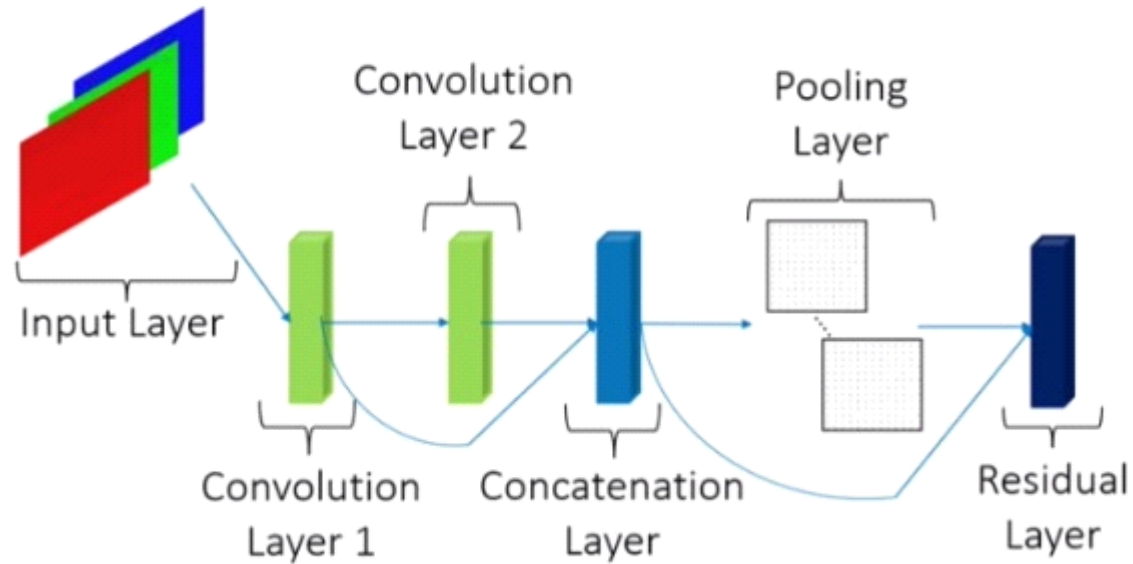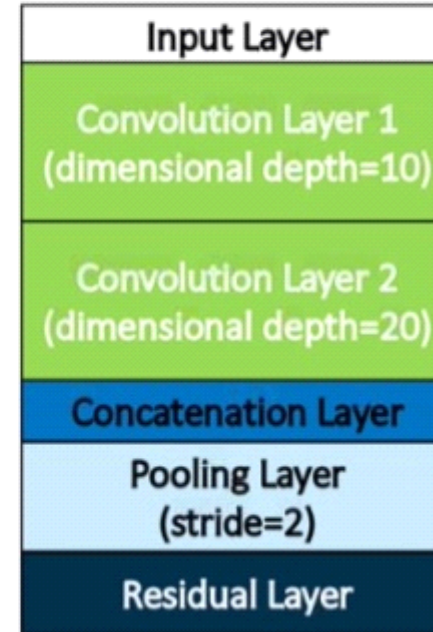| Input Layer |
| :---: |
| Convolution Layer 1 (dimensional depth=10) |
| Convolution Layer 2 (dimensional depth=20) |
| Concatenation Layer |
| Pooling Layer (stride=2) |
| Residual Layer |

Exhibit A details the structure of a convolutional model Exhibit B provides details o(each layer in the model The blue arrowed lines represent connections between layers What is the depth of the residual layer depicted above'?

Options:

A- 30

B- 60

C- 15

D- 45

Answer:

D

Question 6

Question Type: **MultipleChoice**

Which activation function should be used to obtain a single scalar with value in (-1,1)9

Options:

A- TanH

B- Logistic

C- Softmax

D- ReLU

Answer:

A

Question 7

Question Type: MultipleChoice

What sampling method does the DLTUNE action use to sample the hyper parameter values?

Options:

A- Simple Random Sampling

B- Systematic Sampling

C- Stratified Random Sampling

D- Latin Hypercube Sampling

Answer:

B