

CLASS XII
INFORMATICS PRACTICES - New (065)
Marking Scheme - SQP (2019-20)

Max. Marks: 70

Time: 3 hrs

Marking Scheme

Section-A			
1	a	[[1 2 3] [9 8 7] [6 5 4]]	(1 mark for correct output)
	b	[40, 50, 60]	(1 mark for correct output)
	c	plt.bar(cities,users)----- statement1 plt.show() ----- statement2 OR (i) plt.plot(LIST) (ii) plt.ylabel("Sample Numbers")	(1/2 mark for each correct code)
	d	Ans: [14 18 22]	(1 mark for correct output)
	e	Ans: import matplotlib.pyplot as plt import numpy as np cities=['Delhi','mumbai','kolkata','jaipur'] population=[5,8,3,1] plt.bar(cities,population) plt.xlabel('Cities') plt.ylabel('Population in Crores')	2 marks (½ mark for each import statement)
	f	1 mark for definition 1 mark for example	2 marks (1 mark for definition and 1 mark for example)
	g	Import numpy as np X=np.array([0,1,2]) Y=np.array([2,4,5]) Print("\n Original Array1:") Print(x) Print("\n Original Array2:") Print(y) Print("covariance of said arrays\n",np.cov(x,y)) OR import numpy as np Z = np.identity(3) print (Z) x=np.where(Z==0)	3 marks 1 mark for correct code OR 1 mark for creation of matrix 1 mark for identification of even number 1 mark for changing value of 0 to random number

		for i in x: Z[x]=np.random.randint(low=10,high=20) print(Z)	
2	a	(ii) reindex	(1 mark for correct answer)
	b	import pandas as pd df=pd.DataFrame() print(df) OR EMP.insert(loc=3,column="Salary",value=Sal)	(1 mark for correct answer)
	c	0.50 8.0 0.75 11.0	(1 mark for each correct line of output)
	d	# Drop rows with label 1 df = df.drop(1) print(df)	(1 mark for giving complete and correct code)
	e	Pivoting means to use unique values from specified index/columns to form apex of the resulting dataframe.	(1 mark for correct definition and ½-½ mark correct difference)
	f	a. fdf.pivot_table(index='year',values='passenger',aggfunc='sum') b. fdf.pivot_table(index='month',values='passenger',aggfunc='mean') OR import pandas as pd # initialize list of lists data =[['301', 'English', 70], ['065', 'IP', 80], ['083', 'CS', 75]] # Create the pandas DataFrame df = pd.DataFrame(data, columns = ['ID', 'Name', 'Marks']) # printdataframe. print(df)	2 marks (1 mark for each correct command) 2 marks for correct code
	g	a.data.loc['Apple':] b.data.loc[:,['color','Price']] c.data.loc[['Apple','Pear']] OR (i) print(df.mean(axis = 1, skipna = True)) print(df.mean(axis = 0, skipna = True)) (ii) print(df.sum(axis = 1, skipna = True)) (iii) print(df.median())	3 marks (1 mark for each correct code)
	h	a b first 1 2 second 5 10 a b1 first 1 NaN second 5 NaN	3 marks (½ mark for each correct output)
	i	import numpy as np import pandas as pd df1 = pd.DataFrame({'Qt1':[10,20,30,40],'Qt2':[100,200,300,400]});	4 marks (1 mark for creating each dataframe and

		<pre>df2 = pd.DataFrame({'Qt1':[10,20,30,40],'mark2': 100,200,300,400}); print(df1) print(df2) (i) print(df1.add(df2)) (ii) print(df1.subtract(df2)) (iii) df1.rename(columns={'Qt1':'Qt1'}, inplace=True) print(df1) (iv) df1.rename(index = {0: "zero", 1:"one"}, inplace = True) print(df1)</pre>	½ mark for each correct command)
3	a	Software engineering is the process of analyzing users need and design, constructing and testing end user application by employing scientific methodology.	(1 mark for correct answer)
	b	(1 mark for correct answer)	(1 mark for correct answer)
	c	Improved code quality: As second partner reviews the code simultaneously, it reduces the chances of mistake.	(1 mark for correct answer)
	d	<input type="checkbox"/> Incremental model works on the stage-wise development of a complex project that involves real time data whereas Spiral model works on risk analysis of a real time situation. <input type="checkbox"/> Spiral model is a combination of both Incremental as well as Waterfall method. OR <input type="checkbox"/> The ScrumMaster is the servant leader to the Product Owner, Development Team and Organization with no hierarchical authority over the team but rather more of a facilitator, the ScrumMaster ensures that the team adheres to Scrum theory, practices, and rules. <input type="checkbox"/> The ScrumMaster protects the team by doing anything possible to help the team perform at the highest level.	2 marks (1 mark for correct answer and 1 mark for correct justification)
	e	Situations to use/apply waterfall model i) When project is small ii) When problem is static. iii) Clear and fixed requirements. Stable problem definition. Technology is static. Advantage : Simple and easy to understand Disadvantage : No working software till the last phase OR Situations to use/apply spiral model When project is large,When releases are required to be frequent,When risk and costs evaluation is important For medium to high-risk projects Advantage- Additional functionality or changes can be done at a later stage	3 marks (1 mark for any correct area of use 1 mark for correct advantage and 1 mark for correct disadvantage)

		Cost estimation becomes easy as the prototype building is done in small fragments Disadvantage -Risk of not meeting	
f		1 mark for correct definition of version control. ½-½ for correct difference	1 mark for correct definition of version control. ½-½ for correct difference

g		<p>Use Case diagram - ATM</p> <p>OR</p> <p>Use Case Diagram Online taxi Booking</p>	4 marks (2 marks for drawing use case and 1 mark for each actor)
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Section - C

4	a	python manage.py startapp user	1 mark for correct command
	b	1 mark for correct answer	1 mark for correct answer
	c	None value	1 mark for correct answer
	d	Comma separated values	1 mark for correct answer
	e	verify whether the python application is connected to mysql database.	1 mark for correct answer
	f	1 mark for each difference	3 marks

			(1-1 mark for each difference)
	g	<p>i. Candidate Key: Pno, Name</p> <p>ii. Degree:4 Cardinality:5</p> <p>iii. 900</p>	<p>(1 mark for correct answer) (½ Mark for writing correct value of degree) (½ Mark for writing correct value of cardinality) (1 mark for correct answer)</p>
	h	<p>i. select * from teacher where category='pgt';</p> <p>ii. select name from teacher where department='hindi' and gender='F';</p> <p>iii. select name, department, hiredate from teacher order by hiredate;</p> <p>iv. 1</p> <p>v. avg(salary) 24500 24000</p> <p style="text-align: center;">OR</p> <p>i)import mysql.connector mydb = mysql.connector.connect(host="localhost", user="root", passwd="1@2@3@4@5", database="emprecord") mycursor = mydb.cursor() mycursor.execute("INSERT INTO emp values(5,'Shalini','Delhi');") mydb.commit() ii) f = open('details.csv', 'r') with f: reader = csv.reader(f) for row in reader: for e in row: print(e)</p>	<p>(1 mark for correct answer) (1 mark for correct answer) (1 mark for correct answer) (1/2 mark for correct answer) (1/2 mark for correct answer)</p> <p>(i) 1 mark for correct connection establishment ½ mark for activation of cursor and ½ mark for correct executable insert command Or 2 full marks for any other correct program</p> <p>(ii) (1 mark for correct opening of csv file in read mode, ½ mark for csv.reader() command and ½ mark for printing content of csv file)</p>

Section –D

5	a	A remixed song is not an intellectual property	(1 mark for correct answer)
	b	(2) and (3)	1 mark (1/2 mark for correct answer)
	c	The complaint has to be lodged to the police station under IT Act	(1 mark for correct answer)
	d	<p>i. Reena has become a victim of cyber bullying and cyber stalking.</p> <p>ii. She must immediately bring it to the notice of her parents and college authorities and report this cyber crime to local police with the help of her parents.</p>	
	e	<p>Different types of ICT tools assist people with learning disabilities to achieve positive outcomes. They are :</p> <p>Talking Word processors Screen Readers Conversion of local language to Braille Eye Tracking mouse</p>	2 marks (1 mark for each correct point or any other correct point)
	f	<p><input type="checkbox"/> A social media campaign should focus around a singular business goal, whether it's on Facebook or Instagram. Common goals for a social media campaigns include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Getting feedback from users. <input type="checkbox"/> Building email marketing lists <input type="checkbox"/> Increasing website traffic <input type="checkbox"/> Crowdsourcing is the practice of engaging a 'crowd' or group for a common goal — often innovation, problem solving, or efficiency. It is powered by new technologies, social media and web 2.0. Crowdsourcing can take place on many different levels and across various industries. <input type="checkbox"/> Smart mobs, so named because each person in the group uses technology to receive information on where to go and what to do. This ability to stay on top of current events makes smart mobs extremely effective. <p style="text-align: center;">OR</p> <p>1 mark for correct answer of e-waste management.</p> <ol style="list-style-type: none"> 1. Give Your Electronic Waste to a Certified E-Waste Recycler 2. Donating Your Outdated Technology 3. Give Back to Your Electronic Companies and Drop Off Points. 	3 marks (1 mark for one correct role of social media campaign, 1 mark for one correct role of Crowdsourcing and 1 mark for one correct role of Smart mob) (1 mark for each correct ways of disposing e waste)