



# GC UNIVERSITY LAHORE

## Department of Computer Science

### MSCS Sample Entry Test

Instructions: Each Question has 4 possible answers (A, B, C, D). You have to fill the circle/rectangle on FACE SHEET relevant to correct answer. DO NOT WRITE/TICK ANY ANSWER ON THIS QUESTION PAPER. You cannot use backside of this question paper for rough work.

Carefully read following sentence and select the best answer that logically fits with the sentence.

1. The building of the Toshka canal in Egypt was carefully planned .....
- if the inlet starts at a point 8 km north of Toshka bay
  - as the mistakes made in earlier canals had proved costly
  - as if the desert could become green
  - that wealthy investors could easily be found

Questions 2 - 4 are based on the following statement.

“A florist is designing flower arrangements containing two or more varieties of flowers, Freesia, Lilies, Peonies, Tulips, and Zinnias. All acceptable arrangements must conform to the following conditions.

- If an arrangement contains any Freesias, it cannot contain any Zinnias.”
- If an arrangement contains any Tulips, it cannot contains any Zinnias.
- If an arrangement contains any Peonies, it must also contain Zinnias in equal number of Peonies.
- If an arrangement contains Freesias, the number of Freesias must be greater than the total number of other flowers used.
- If an arrangement contains any Irises, it must also contain Tulips in exactly double number than Irises.

Q2. Which one of the following arrangement is not allowed?

- 3Peonies, 3 Zinnias.
- 10 Tulips.
- 3 Irises, Zinnias, Tulips.
- None of above

Q3. Which of the following flower arrangements could be made acceptable by just adding one tulip.

- 4 Freesias, 1 Lily, 2 Tulips.
- 4 Freesias, 2 Peonies, 1 Tulip..
- 5 Freesias, 1 Iris, 1 Tulip.
- 2 Irises, 2 Tulips, 2 Zinnias.

D. Irises with Peonies.

Question 5- 6 are based on the following paragraph.

**Scientist:** More than 1000 large asteroids regularly cross the earth’s path. Even though the probability of one collision with earth is extremely light, we should do whatever we can to reduce probability since any such collision would be catastrophic. The best way to avoid such a disaster is to deflect the asteroids. The only known way of deflecting is by hitting them with nuclear weapons that would be stored in space stations.

Q5. Only one of the following claims is a scientific statement.

- Speed and mass of about 1000 asteroids is enough to pass upper atmosphere and collide with earth surface.
- If something can go wrong, it will go wrong.
- The day of destruction of earth can be guessed by super computers.
- Whenever an asteroid is seen on sky, it indicates that Human Civilization is in great danger.

Q6. Following is not the reason that no catastroph occurred in previous centuries.

- Their sizes are small enough to burn out in upper atmosphere,
- Their paths do not coincide exactly with earth’s path.
- There is some natural force that deflects asteroids away from Earth.
- Problems involved with very low probabilities become the laws of chance.

Q7. adj. of opposing or opposed is

- precise
- weak-kneed
- adverse
- deficient

Opposite: For the following problems, choose the word most opposite in meaning to the capitalized word.

Q8. GRATUITOUS:

- voluntary
- arduous
- befitting
- righteous

Q9. What is next number in series 1,1,2,3,5,8,13,

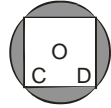
- 18
- 23
- 21
- 26

Q4. Each pair of the following flowers can be used in an acceptable arrangement

- EXCEPT. A. Freesias with Lilies.  
B. Freesias with Tulips.  
C. Irises with Lilies.

Q10. In the figure below, square ABCD is inscribed in circle O. If the perimeter of ABCD is 24, what is the area of the shaded region?

- A  $18\pi - 36$    B  $18\pi - 24$    C  $12\pi - 36$    D  $36\pi - 24$



Q11. Only one of the following function has the property that its derivative is equal to its integral.

A	$1/x$	B	$\text{Log}(x)$	C	$e^x$	D	No such function
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Q12. Which of the following series converge to 2?

A	$\sum_{n=1}^{\infty} \frac{1}{2^n}$	B	$\sum_{n=1}^{\infty} \frac{2n}{n^3}$	C	$\sum_{n=1}^{\infty} \frac{-8}{-3^n}$	D	None of These
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Q13. CPU performance may be measured in

A	BPS	B	Mhz	C	MIPS	D	VLSI
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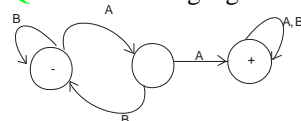
Q14. At what stage of SDLC software errors are least costly to correct?

A	Requirement	B	Design	C	Test	D	maintenance
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Q15. Which of the following is not an umbrella activity in SE.

A	Risk Mamanement	B	Change Management	C	Testing	D	QA
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Q16. The language accepted by the following FA is .



A	$(A+B)^* AA(A+B)^*$	B	$B^*(A^*A)(A+B)^*$	C	$(A+B)^* A(A+B)^*$	D	None
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Q17. A binary search tree in which heights of left and right subtrees of each node can at most differ by 1, is called

A	AVL	B	B-Tree	C	BST	D	None of these
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Q18. What can be a recursive call for a function which calculates Fibonacci series.

A	$\text{fib}(N-1) + \text{fib}(N-2)$	B	$N-1 + \text{fib}(N-2)$	C	$N + \text{fib}(N-1)$	D	None of these
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Q19. Following is correct order in terms of time complexity. ( n large)

- A.  $C < \log n < n < n \log n < n^m < e^n$
- B.  $C > \log n > n > n \log n > n^m > e^n$
- C.  $C \leq \log n \leq n \leq n \log n \leq n^m \leq e^n$
- D.  $C \geq \log n \geq n \geq n \log n \geq n^m \geq e^n$

Q20. A router is used to

A	Forward IP packets to destination address	B	Connect to an external gateway	C	Connect two different topologies	D	All of these
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