

# GAME PROGRAMMING SEM V 2019-2020

## Sample Question paper

1. On the Cartesian plane, the x-axis is also known as
  - A. horizontal axis**
  - B. vertical axis
  - C. point coordinate
  - D. function coordinate
2. What quadrant is (-2,1) in?
  - A. IV
  - B. III
  - C. II**
  - D. I
3. A circle is a \_\_\_\_\_ curve, every point on which is equidistant from a given fixed point.
  - A. Closed**
  - B. Open
  - C. Single
  - D. Double
4. The vector product of two vector is also known as.
  - A. Product Scalar Product
  - B. Dot product
  - C. Point
  - D. Cross Product**
5. Cross product of two same vectors is equal to
  - A. 0**
  - B. 1
  - C. J
  - D. j.j
6. What is the magnitude of the vector,  $12i - 8j - 24k$ ?
  - A. 18
  - B. 28**
  - C. 38
  - D. 48
7. For two vectors A and B, what is A.B (if they have angle  $\alpha$  between them)?
  - A.  $|A||B| \cos\alpha$**
  - B.  $|A||B|$
  - C.  $\sqrt{(|A||B|)} \cos\alpha$
  - D.  $|A||B| \sin\alpha$
8. What is Distributive law?
  - A.  $A.B = B.A$

- B.  $a(A \cdot B) = A \cdot (aB)$   
 C.  $A \cdot (B+D) = (A \cdot B) + (A \cdot D)$   
 D.  $a(A \cdot B) = A \cdot B$
9. Mathematically, for two vectors A and B of any magnitude, the cross product of both, i.e.  $A \times B =$  given by:
- A.  $|A| |B| \sin \theta$**   
 B.  $|A| |B|$   
 C.  $|A| |B| \cos \theta$   
 D.  $|A| |B| \sin(180^\circ + \theta)$
10. Which of them is not correct?
- A.  $j \times j = 0$   
 B.  $j \times k = i$   
**C.  $j \times i = k$**   
 D.  $j \times i = -k$
11. The radiant efficiency of the luminous source depends on
- A. The shape of the source  
**B. The temperature of the source**  
 C. The wavelength of the light rays  
 D. All of the above
12. The unit of luminous flux is.
- A. Steradian  
 B. Candela  
**C. Lumen**  
 D. Lux
13. The method which is based on the principle of checking the visibility point at each pixel position on the projection plane are called
- A. Object-space method  
**B. Image-space method**  
 C. Both A & B  
 D. None of these
14. Back Face Detection is.
- A. Identifying the back face of a polyhedron**  
 B. Comparing Surface depths at each pixel position.  
 C. All polygon surface intersecting the scan line are examined  
 D. Surfaces are scan converted in order, starting with the surface of greatest depth.
15. In 2D-translation, a point  $(x, y)$  can move to the new position  $(x', y')$  by using the equation.
- A.  $x' = x + dx$  and  $y' = y + dx$   
**B.  $x' = x + dx$  and  $y' = y + dy$**   
 C.  $X' = x + dy$  and  $Y' = y + dx$   
 D.  $X' = x - dx$  and  $y' = y - dy$

16. Positive values for the rotation angle  $\theta$  defines
- A. Counterclockwise rotations about the end points
  - B. Counterclockwise translation about the pivot point
  - C. Counterclockwise rotations about the pivot point**
  - D. Negative direction
17. The original coordinates of the point in polar coordinates are
- A.  $X' = r \cos(\phi + \theta)$  and  $Y' = r \sin(\phi + \theta)$
  - B.  $X' = r \cos(\phi + \theta)$  and  $Y' = r \sin(\phi + \theta)$**
  - C.  $X' = r \cos(\phi - \theta)$  and  $Y' = r \sin(\phi - \theta)$
  - D.  $X' = r \cos(\phi + \theta)$  and  $Y' = r \sin(\phi - \theta)$
18. If the scaling factors values  $s_x$  and  $s_y < 1$  then
- A. It reduces the size of object**
  - B. It increases the size of object
  - C. It stunts the shape of an object
  - D. None
19. Which transformation needs homogeneous coordinates to represent it in Matrix form?
- A. Scaling
  - B. Rotation
  - C. Translation**
  - D. Reflection
20. A matrix B and \_\_\_\_\_ will have the same determinant.
- A. Its transpose**
  - B. Its inverse
  - C. Its echelon matrix
  - D. Its adjoint