GRAPHIC ERA UNIVERSITY

GRAPHIC ERA COMMON ENTRANCE TEST (GECET)

Sample Test Paper – B.Tech (Excluding-Biotech)

Total Duration: 120 Minutes (Aptitude plus Domain specific)
Total Aptitude Questions: 50
Total Aptitude Marks: 70
Marks for Domain paper: 30

IMPORTANT INSTRUCTIONS

1. Read each question carefully before answering.

2. All questions are compulsory.

3. There is no negative marking.

4. Use of calculators is not permitted unless explicitly allowed.

Marking Scheme:

- Domain-Specific: 15 Questions × 2 Marks = 30 Marks

- Aptitude: 30 Questions × 1 Mark + 20 Questions × 2 Marks = 70 Marks

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SECTION 1: APTITUDE

(Common Aptitude Sample Questions in a separate document)

SECTION 2: PHYSICS

(3 Questions × 2 Marks = 6 Marks)

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1. Snell's law relates which of the following quantities when light passes from one medium to another?

a) wavelength and frequency
b) angle of incidence and angle of reflection
c) sine of angle of incidence and sine of angle of refraction
d) speed of light and intensity

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2. Magnetic flux density or magnetic field at a point on the axis of a long solenoid is given by:

a) $B = \mu_0 n i$
b) $B = \mu_0 i / 2r$
c) $B = \mu_0 i / 4r$
d) $B = \mu_0 i$

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3. If the wavelength of electromagnetic radiation is doubled, what happens to the energy of photons?

a) remains the same
b) doubled
c) halved
d) infinite

SECTION 3: CHEMISTRY

(3 Questions × 2 Marks = 6 Marks)

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4. Which among the following alkenes is used in the manufacturing of plastics?

a) butadiene
b) 1,2-butadiene
c) 1,3-butadiene
d) 2-butadiene

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5. Which of the following statements is incorrect about aromatic compounds?

a) they are planar
b) they have $4n\pi$ electrons
c) they are cyclic
d) they are generally less reactive than similarly substituted alkenes

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6. Which of the following alkyl halides would undergo SN2 reaction most rapidly?

a) CH_3CH_2Br
b) CH_3CH_2Cl
c) CH_3CH_2I
d) CH_3CH_2F

SECTION 4: MATHEMATICS

(3 Questions × 2 Marks = 6 Marks)

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7. The area of a triangle with vertices (x_1, y_1), (x_2, y_2), and (x_3, y_3) is:

a) $|x_1y_1 + x_2y_2 + x_3y_3|$
b) $\frac{1}{2} |x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)|$
c) $|x_1(y_2 + y_3)|$
d) $1/3 |x_1(y_2 - y_3)|$

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8. The inverse of a matrix A exists if and only if:

a) $A = 0$
b) $|A| = 0$
c) $|A| \neq 0$
d) A is symmetric

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9. Which of the following is an arithmetic progression (AP)?

a) 2, 4, 8, 16
b) 1, 3, 5, 7
c) 3, 6, 12, 24
d) 1, 4, 9, 16

SECTION 5: COMPUTER SCIENCE AND ENGINEERING

(6 Questions × 2 Marks = 12 Marks)

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10. What is the time complexity of binary search?

a) O(n)
b) O(log n)
c) O(n²)
d) O(1)

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11. What is the output of the following code?

Python:

```python
x = 1

while x < 4:

    x = x + 1

    print(x)
```

Java / C++:

```
int x = 1;

while(x < 4)

    x++;

System.out.print(x);   // cout << x;
```

a) 4
b) 2
c) infinite
d) 5

12. What is the output of the following code?

Python:

```
print(4 % 2)
```

Java / C++:

```
System.out.print(4 % 2);    // cout << 4 % 2;
```

a) 1
b) 0
c) 2
d) 4

13. Which topology connects all devices to a central hub?

a) bus
b) ring
c) star
d) mesh

14. In SQL, which command is used to fetch data from a database?

a) get
b) extract
c) select
d) open

15. A variable defined inside a function is called:

a) global variable
b) static variable
c) local variable
d) constant

ANSWER KEY

Question No.	Answer
1	c
2	a
3	c
4	c
5	b
6	c
7	b
8	c
9	b
10	b
11	a
12	b
13	c
14	c
15	c

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