GHAZALI COLLEGE FOR BOYS AND GIRLS
KATLANG MARDAN
Pre-Engineering / Computer Science

Total time: 60 Minutes | **Model Paper** | Total marks: 100 (50 ×2 = 100)

"Mathematics" Marks: 30

Q:1 Choose the correct option i.e A,B,C or D

1. Standard form of quadratic equation is

Ⓐ $ax^2=0$, $a \neq 0$ Ⓑ $ax^2= bx$, $a \neq 0$ Ⓒ ax^2+bx+c , $a \neq 0$ Ⓓ $bx+c$, $b \neq 0$

2. An equation, which remains unchanged when x is replaced by 1/x called a/an

Ⓐ Reciprocal equation Ⓑ Exponential equation Ⓒ Radical equation Ⓓ None of these

3. The solution set of $5x^2=15x$ is:

Ⓐ {3, -3} Ⓑ {0} Ⓒ {0,3} Ⓓ {0,-3}

4. The product of cube roots of unity is:

Ⓐ 3 Ⓑ 0 Ⓒ -1 Ⓓ 1

5. If α,β are the roots of 3x2+5x−2=0, then "α+β" is:

Ⓐ $\frac{5}{3}$ Ⓑ $-\frac{2}{3}$ Ⓒ $-\frac{5}{3}$ Ⓓ $\frac{3}{5}$

6. Roots of the equation 4x2−4x+1=0 are:

Ⓐ Real, unequal Ⓑ Irrational Ⓒ Real, equal Ⓓ Imaginary

7. The discriminant of quadratic equation 6x2−8x+3=0 is:

Ⓐ $\frac{8}{3}$ Ⓑ -8 Ⓒ $\frac{1}{2}$ Ⓓ $\frac{4+i\sqrt{2}}{2}$

8. Sum of cube root of unity is:

Ⓐ -1 Ⓑ 1 Ⓒ 0 Ⓓ 3

9. In ratio a ∶ b, the b is called _____. ('b' is the second term)

Ⓐ Consequent Ⓑ Extreme Ⓒ Mean Ⓓ Antecedent

10. In a continued proportion a ∶ b :: b ∶ c or $ac = b^2$, b is said to be _____ proportional

Ⓐ Fourth Ⓑ Means Ⓒ Both third and fourth Ⓓ Third

11. $\frac{2x+1}{(x+1)(-1)}$ *is*

Ⓐ An equation Ⓑ An proper fraction Ⓒ An improper fraction Ⓓ None of these

12. The quadratic formula is:

Ⓐ $\frac{-b \pm \sqrt{b^2-4ac}}{2a}$ Ⓑ $\frac{b \pm \sqrt{b^2-4ac}}{2a}$ Ⓒ $\frac{-b \pm \sqrt{b^2+4ac}}{2a}$ Ⓓ $\frac{b \pm \sqrt{b^2+4ac}}{2a}$

13. Two linear factors of x2 − 15x+56 are:

Ⓐ (x − 7) and (x+8) Ⓑ (x+7) and (x − 8) Ⓒ (x − 7) and (x − 8) Ⓓ (x+7) and (x+8)

14. The solution set of equation 2+9x=5x2 is:

Ⓐ $\left\{-\frac{1}{5}, 2\right\}$ Ⓑ $\left\{+\frac{1}{5}, 2\right\}$ Ⓒ $\left\{\frac{1}{5}, -2\right\}$ Ⓓ $\left\{-\frac{1}{5}, -2\right\}$

15. If A B ⊆ then A B ∪ is equal to:

Ⓐ A Ⓑ B Ⓒ ϕ Ⓓ None of these

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"Chemistry" Marks: 20

Q:2 Choose the correct option i.e A,B,C or D

16. The example of weak acid is

Ⓐ HNO_3 Ⓑ CH_3COOH Ⓒ HCL Ⓓ H_2SO_4

17. When Ethene react with HBr, the compound form is

Ⓐ CH_3-CH_2-Br Ⓑ Br-CH_2-CH_2-Br Ⓒ CH_3-CH_2-CH_3 Ⓓ CH=CH

18. Carbon is bonded on both sides to oxygen atom.

Ⓐ Alcohol Ⓑ Ketone Ⓒ Aldehyde Ⓓ Ether

19. The number of proton in chlorine atom is

Ⓐ 12 Ⓑ 6 Ⓒ 17 Ⓓ 11

20. Which group of elements contain incomplete subshell is

Ⓐ Group IA Ⓑ Group IIA Ⓒ Group IIIA Ⓓ Group IVA

21. Which of two Elements will form

Ⓐ Na and K Ⓑ K and Ca Ⓒ Ca and Cl Ⓓ Cl and C

22. Reduction of metal take place at

Ⓐ Anode Ⓑ Walls of cell Ⓒ Battery Ⓓ Cathode

23. The PH of acid rain is less than

Ⓐ 13.6 Ⓑ 10.6 Ⓒ 7.6 Ⓓ 5.6

24. Deficiency of Vitamin A cause

Ⓐ Scurvy Ⓑ Rickets Ⓒ Night blindness Ⓓ Aging

25. Mobility of particles in solid, liquid and gas depends on

Ⓐ Kinetic energy Ⓑ Diffusion Ⓒ Density Ⓓ volume

"Physics" Marks: 20

Q:3 Choose the correct option i.e A,B,C or D

26. What would be the displacement of a particle moving in a circular path of radius r after a displacement of half a circle?

Ⓐ 2πr Ⓑ a. πr Ⓒ 2r Ⓓ zero

27. The path length travelled by a body in a given time interval is known as _____.

Ⓐ Distance Ⓑ Velocity Ⓒ Acceleration Ⓓ moment

28. What is the SI unit of speed?

Ⓐ m/s^2 Ⓑ km/h Ⓒ m/s Ⓓ cm/s

29. The slope of a distance-time graph represents

Ⓐ Acceleration Ⓑ Velocity Ⓒ Speed Ⓓ Force

30. A car accelerates from 10 m/s to 30 m/s in 5 seconds. Its acceleration is

Ⓐ 2 m/s^2 Ⓑ 4 m/s^2 Ⓒ 6 m/s^2 Ⓓ 8 m/s^2

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31. The resistance of a conductor depends on:

Ⓐ Length, area, and material Ⓑ Only voltage Ⓒ Only current Ⓓ Temperature alone

32. Which of the following is an insulator?

Ⓐ Copper Ⓑ Silver Ⓒ Rubber Ⓓ Aluminum

33. The equivalent resistance of two 10Ω resistors in parallel is:

Ⓐ 5Ω Ⓑ 10Ω Ⓒ 20Ω Ⓓ 40Ω

34. A fuse wire is used to:

Ⓐ Increase current Ⓑ Prevent short circuits Ⓒ Measure voltage Ⓓ Store charge

35. The heating effect of electric current is used in:

Ⓐ Electric bulb Ⓑ Electric motor Ⓒ Generator Ⓓ Transformer

"English" Marks: 20

Q:4 Choose the correct option i.e A,B,C or D

36. He ___ to school every day.

Ⓐ Go Ⓑ Goes Ⓒ Going Ⓓ gone

37. Identify the noun in the sentence: Ali is playing football.

Ⓐ Is Ⓑ Playing Ⓒ Ali Ⓓ football

38. What is the past tense of "eat"?

Ⓐ Eating Ⓑ Eats Ⓒ Eaten Ⓓ ate

39. Which sentence is correct?

Ⓐ She go to market. Ⓑ She going to market. Ⓒ She goes to market. Ⓓ She gone to market.

40. Choose the correct article: He bought ___ apple.

Ⓐ a Ⓑ An Ⓒ The Ⓓ No article needed

41. Identify the adjective: The sky is blue.

Ⓐ sky Ⓑ Is Ⓒ The Ⓓ Blue

42. Which one is an interrogative sentence?

Ⓐ She is a teacher Ⓑ Is she a teacher? Ⓒ She was a teacher Ⓓ She is not a teacher.

43. Select the correct preposition: The cat is ___ the table.

Ⓐ On Ⓑ On Ⓒ Under Ⓓ It

44. What is the plural of "child"?

Ⓐ Childes Ⓑ Childs Ⓒ Children Ⓓ child

45. Find the correct spelling:

Ⓐ Recieve Ⓑ Receive Ⓒ Receeve Ⓓ Resive

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"General Knowledge"

Marks: 10

سوال :5 درست جواب کا انتخاب کیجیے ۔

46. الحمد کا معنی ہے

(A) تمام تعریفیں (B) تمام اچھائیاں (C) تمام برکات (D) ان میں سے کوئی نہیں

47. المغضوب کا معنی ہے

(A) جن پہ غضب ہوا (B) جن پہ لعنت ہوئی (C) جن پہ سختی ہوئی (D) ان میں سے کوئی نہیں

48. الذی کی جمع ہے

(A) التی (B) الذین (C) التان (D) ان میں سے کوئی نہیں

49. برصغیر میں دو قومی نظریہ کس نے پیش کی؟

(A) سرسید احمد خان (B) محمد علی جناح (C) محمد اقبال (D) ان میں سے کوئی نہیں

50. مسلم لیگ کا قیام عمل میں لایا گیا۔

(A) 1920 (B) 1908 (C) 1906 (D) ان میں سے کوئی نہیں

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