2023

PARTICULARS TO BE FILLED IN BY THE CANDIDATE		Question Booklet Number
Name of the Candidate	Mohd Khalid	5027974
Roll Number		
Application Number		
Name of the Centre		NNHQ
Centre Code		
Date of the Test		2233
Signature of the Candidate		

Maximum Marks : 85

Test Duration : 02 hours

INSTRUCTIONS

- Complete all entries on the cover page and put your signature in the space provided.
- Use only Ball Point Pen (black / blue) for making entries in the Question Booklet and the OMR Answer Sheet.

1. The Question Booklet consists of **24** pages (including cover sheet) and contains a total of **85** questions (25 questions in Section-I and 60 questions in Section-II). Count the number of pages and questions before attempting the questions. Discrepancy, if any, must immediately be brought to the notice of the Invigilator.

2. The Test duration as specified above shall be reckoned from the moment of distribution of the question booklets.

3. Blank space in the Question Booklet may be used for rough work.

4. Each question is followed by four alternative answers. Select only one answer, which you consider as the most appropriate. Shade the relevant circle against the corresponding question number on the OMR Answer Sheet. Selecting more than one answer for a question, even if one of the selected answers is correct, would result in its being treated as an incorrect answer.

5. Answers should ONLY be marked on the OMR Answer Sheet. No answer should be written on the Question Booklet.

6. The candidate is required to separate the original OMR Answer Sheet and its carbonless copy at the perforation carefully after the Admission Test. He / She shall handover the original OMR Answer Sheet and the Admit Card to the Invigilator before leaving his/her seat and take with him/her the carbonless copy of the OMR Answer Sheet and the Question Booklet.

7. Failure to handover the original OMR Answer Sheet and the Admit Card will lead to cancellation of the candidature.

Section-I

1. Work hard lest you .... fail.

   (a) might   (b) could

   (c) may   (d) should

2. Be careful .... what you do.

   (a) with   (b) by

   (c) in   (d) to

3. The passive of "Who teaches you English ? " is :

   (a) By whom you are taught English.

   (b) By whom English is taught to you.

   (c) Who taught you English.   [Ans 'c']

   (d) Whom do you teach English by.

   [will be deleted]

4. The indirect narration of "He said to me, do you know me ?"

   (a) He asked me whether I knew him.

   (b) He enquired if I know him.

   (c) He asked me that if I knew him.

   (d) He said to me if I knew him.

5. The word with correct spelling is :

   (a) Affedevit

   (b) Afidevit

   (c) Affdevit

   (d) Affidavit

   [Class 6 previous year]

6. The antonym of the word 'Sapient' is ....

(a) Wise [synonym]

(b) Foolish

(c) Wasteful

(d) Safe

7. The correct synonym of the word 'Forestall' is ....

(a) Avoid

(b) Frighten

both a & c

(c) Prevent

[will be deleted]

(d) Disappoint

8. Fill in the blank with the correct preposition :
She came .... the library.

(a) in   (b) into

(c) at   (d) none of the above

9. Choose the correct alternative which completes the given statement and change it into indirect narration.

The teacher said to me, "May you pass".

(a) The teacher wanted me that I might pass.

(b) The teacher told me that I might pass.

(c) The teacher wished me that I might pass.

(d) The teacher wished me that I might have passed.

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نظم "دیوالی کے دیپ جلے" کے شاعر کا کیا نام ہے؟

(a) روش صدیقی

(b) علامہ اقبال

(c) رگھوپتی سہائے فراق گورکھپوری

(d) حفیظ جالندھری

"شاعرِ مشرق" کس کو کہا جاتا ہے؟

(a) فیض

(b) ذوقؔ

(c) حسرتؔ

(d) علامہ اقبال

مندرجہ ذیل شعر میں "خورشید کی پلکیں" کسے کہا گیا ہے؟

اور ہر صبح کو یہ کھیل رچا جاتا ہے
ان کو خورشید کی پلکوں سے چنا جاتا ہے۔

(a) سورج کو

(b) شعاعوں کو

(c) گرمی کو

(d) شبنم کو

عالم کی جمع کیا ہے؟

(a) علم

(b) علوم

(c) اعلام

(d) علماء

قرۃ العین حیدر سے متعلق خطوط کا مجموعہ مندرجہ ذیل میں سے کون سی کتاب ہے؟

(a) کفِ گل فروش

(b) آگ کا دریا

(c) دامانِ باغباں

(d) میرے بھی صنم خانے

لفظ پیچ و تاب کا معنی کیا ہے۔

(a) خوف کھانا

(b) گروہ

(c) بے قرار ہونا

(d) شاد ہونا

16) حروف جار کہتے ہیں:

(a) وہ لفظ جس پر اضافت کا زیر آتا ہو۔

(b) جملے بنانے میں مدد کرنے والے الفاظ کو۔

(c) دو لفظ یا دو جملوں کو جوڑنے والے الفاظ کو۔

(d) جس لفظ کے مختلف معنی ہوں، اس کو۔

ناول "اختر النسا بیگم" کتنے سال کی عمر میں لکھا گیا:

(a) بارہ سال

(b) تیرہ سال

(c) چودہ سال

(d) پندرہ سال

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18. निम्नलिखित पंक्तियां किस कवि द्वारा रचित हैं ? कवि का नाम बताइये :

"पुष्प-पुष्प से तंद्रालस लालसा खींच लूँगा मैं,

अपने नव जीवन का अमृत सहर्ष सींच दूँगा मैं"

(a) सूरदास

(b) सूर्यकांत त्रिपाठी 'निराला' ✓

(c) नरोत्तम दास

(d) जया जादवानी ✗

19. निम्नलिखित पंक्तियों में कौनसा अलंकार होगा ?

"व्योम को छूते हुए दुर्गम पहाड़ों के शिखर ।

वे घने जंगल जहाँ रहता है तम आठों पहर ।।"

(a) मानवीकरण अलंकार

(b) अतिशयोक्ति अलंकार

(c) उत्प्रेक्षा अलंकार

(d) रूपक अलंकार

20. जिन शब्दों में लिंग, वचन, कारक आदि के कारण कोई परिवर्तन नहीं होता वे क्या कहलाते हैं ?

(a) क्रिया कहलाते हैं ।

(b) वचन कहलाते हैं ।

(c) अव्यय कहलाते हैं ।

(d) वाच्य कहलाते हैं ।

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21. बाबा भारती का <u>सफेद</u> घोड़ा दौड़ रहा था – इस वाक्य में विशेषण का कौनसा भेद है ?

   (a) परिणामबोधक विशेषण

   (b) संख्यावाचक विशेषण

   (c) गुणवाचक विशेषण

   (d) सार्वनामिक विशेषण

22. 'आँख का अन्धा नाम नयनसुख' लोकोक्ति का क्या अर्थ है ?

   (a) गुण के विरुद्ध नाम का होना

   (b) आँख की रोशनी जाना

   (c) नामकरण करना

   (d) संतुष्ट होना

23. 'प्रेमचंद के फटे जूते' रचना के रचनाकार कौन हैं ?

   (a) श्यामाचरण दुबे   (b) हरिशंकर परसाई

   (c) प्रेमचंद   (d) कृष्णा सोबती

24. 'नरोत्तम दास' किस काव्यधारा के कवि थे ?

   (a) रामभक्ति काव्यधारा   (b) रीतिकालीन काव्यधारा

   (c) कृष्ण काव्यधारा   (d) इनमें से कोई नहीं

25. 'सावधान' का सही सन्धि–विच्छेद है –

   (a) साव+धान   (b) सा+वधान

   (c) स+आवधान   (d) स+अवधान

26. Asteroids are found between the orbits of :

    (a) Mars and Jupiter

    (b) Earth and Mars

    (c) Earth and Venus

    (d) Jupiter and Saturn

27. Which of the following statement is not true ?

    (a) Friction can be reduced by converting sliding friction into rolling friction.

    (b) Friction in air and water can be reduced by streamlining the shape of the object.

    (c) A polished surface will have less friction.

    (d) Friction can be reduced to zero.

28. The planet which takes the least time to revolve around the Sun is :

    (a) Mercury   (b) Uranus

    (c) Jupiter   (d) Neptune

29. The weight of an object will be zero at :

    (a) The surface of the earth

    (b) The centre of the earth

    (c) At 100 km above the surface of the earth

    (d) At 100 km below the surface of the earth

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30. Which of the following is a weedicide ?

    (a) Urea   (b) 2, 4-D

    (c) Cowdung   (d) NPK

31. Sodium and Potassium are stored in Kerosene due to their

    (a) Low Reactivity

    (b) High Reactivity

    (c) Softness

    (d) Low Melting point

32. Growth hormone is secreted by .... gland.

    (a) Thyroid

    (b) Pituitary

    (c) Adrenal

    (d) Pancreas

33. Minimum audible frequency for human ear is

    (a) 200 Hz

    (b) 2000 Hz

    (c) 20,000 Hz

    (d) 20 Hz

8

34. Non-metals react with oxygen to form

   (a) Acidic oxide or Neutral oxide

   (b) Basic oxide

   (c) Amphoteric oxide

   (d) None of the given

35. Which of the following occurs during lightening ?

   (a) Acid rain

   (b) Green house effect

   (c) Nitrogen fixation

   (d) Smog

36. The pores in the bread is due to gas bubbles of

   (a) Oxygen   (b) Nitrogen

   (c) Carbon dioxide   (d) Nitrogen dioxide

37. The process by which dead remains of plants and animals are decomposed into nitrogen is called

   (a) Desertification

   (b) Deamination

   (c) Nitrification

   (d) Amination

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38. The most reactive metal is

   (a) Copper

   (b) Silver

   (c) Potassium

   (d) Calcium

39. The burning of LPG is an example of

   (a) rapid combustion

   (b) explosion

   (c) slow combustion

   (d) none of the given

40. Friction due to fluid flow is called

   (a) force

   (b) pressure

   (c) friction

   (d) drag

41. Identify the substance which is tough, porous and black. It is almost a pure form of carbon

    (a) Crude oil   (b) Coal tar

    (c) Coal gas   (d) Coke

42. The increase in concentration of which gas is not responsible for Global Warming ?

    (a) Nitrogen

    (b) Methane

    (c) Carbon dioxide

    (d) Sulphur dioxide

43. Which of the following techniques of irrigation should be used to save water ?

    (a) Canal irrigation

    (b) Drip irrigation

    (c) Lift irrigation

    (d) Water Wheel

44. While baking cakes, yeast multiplies rapidly and produces............ gas.

    (a) Hydrogen   (b) Nitrogen

    (c) Oxygen   (d) Carbon dioxide

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45. Which of the following metals catch fire on reaction with air ?

  (a)   Magnesium

  (b)   Sodium

  (c)   Calcium

  (d)   Aluminium

46. Same kind of plants grown and cultivated on a large scale at a place is called

  (a)   weed

  (b)   crop

  (c)   herb

  (d)   shrub

47. Polymers are made up of small units called

  (a)   layers

  (b)   molecules

  (c)   cells

  (d)   monomers

48. Which gas is evolved when magnesium reacts with dilute hydrochloric acid ?

  (a)   Carbon dioxide   (b)   Nitrogen

  (c)   Oxygen   (d)   Hydrogen

49. The lowest temperature at which a substance catches fire is called its

   (a) absolute temperature

   (b) critical temperature

   (c) super temperature

   (d) ignition temperature

50. External fertilization is not found in

   (a) Hen

   (b) Fish

   (c) Frog

   (d) Starfish

51. Which of the following statement is not correct ?

   (a) friction acts on both the surface

   (b) static friction is less than sliding friction

   (c) rolling friction is less than sliding friction

   (d) friction can be reduced

52. The device used to test the charge on an object is :

   (a) lightning conductor

   (b) galvanometer

   (c) ammeter

   (d) electroscope

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53. The impression of an image persists on the retina for about :

(a) $\left(\dfrac{1}{16}\right)^{th}$ of a second

(b) $\left(\dfrac{1}{24}\right)^{th}$ of a second

(c) $\left(\dfrac{1}{20}\right)^{th}$ of a second

(d) $\left(\dfrac{1}{60}\right)^{th}$ of a second

54. The junction of optic nerves and the retina in the eye is called :

(a) yellow spot

(b) choroid

(c) blind spot

(d) pupil

55. Which amongst the following is responsible for acid rain ?

(a) NO_2 and CO_2

(b) CO and CH_4

(c) NO_2 and SO_2

(d) SO_3 and NO_3

Which of the following is a rational number?

(a) $\sqrt{3}$

(b) $\sqrt{3} + 3$

(c) 0.113513513

(d) 0.573057300573

If a polyhedron has 6 vertices and 12 edges. What is the number of faces it has?

$F + V - E + 2$
$F + 6 = 12 + 2$

(a) 6

(b) 4

(c) 12

(d) 14

If a cuboidal box has height, length and width as 20 cm, 17 cm and 10 cm respectively, then the total surface area is

$2(lb + bh + lh)$

$l = 15$
$h = 40$
$h = 20$

$2(15 \times 10 + 10 \times 10 + 15 \times 10)$

$2(150 + 200 + 300)$

2×650

(a) 1100 cm²

(b) 1200 cm²

(c) 1300 cm²

(d) 1400 cm²

1300

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59. A shopkeeper allows 20% off on the marked price of goods and still gets a profit of 25%. What is the actual cost to him of an article with marked price Rs. 500 ?

(a) Rs. 320

(b) Rs. 540

(c) Rs. 517

(d) Rs. 560

60. The sum of the measures of the external angles of a regular hexagon is

(a) 540°

(b) 720°

(c) 140°

(d) 360°

61. A rhombus and a square have the same area. The side of the square is 6 cm. If one diagonal of the rhombus is 8 cm, find the length of the other diagonal.

(a) 12 cm

(b) 9 cm

(c) 15 cm

(d) 24 cm

16

62. Find the compound interest which Rozy will get on Rs. 4096, if she gave it for 18 months at 12.5% per annum, interest being compounded half yearly.

(a) Rs. 800

(b) Rs. 817

(c) Rs. 813

(d) Rs. 823

$$4096\left[1+\frac{125}{2000}\right]^3$$

$$\frac{-10}{4}\frac{-5}{2}$$

63. Find the value of $(5a^2) \times (-10ab^2) \times (-2.1a^2b^2)$ for $a = 1$ and $b = \frac{1}{2}$. [Not option correct]

[will be deleted]

(a) $\frac{107}{32}$

(b) $\frac{109}{32}$

(c) $\frac{105}{32}$

(d) $\frac{32}{105}$

$$\left[5 \times 1\right] \times \left[-10 \times 1 \times \frac{1}{4}\right] \times \left(-2.1 \times 1 \times \frac{1}{4}\right)$$

$$5 \times \left[\frac{-5}{2}\right] \times \left[\frac{-21}{10\times 4}\right] \qquad \frac{-21}{10}\frac{-5}{2}$$

$$5 \times \frac{105}{80} \qquad \frac{-25}{25}\frac{-21}{25}\frac{50}{525}$$

$$5 \times 1 \times -10 \times 1 \times \frac{1}{4} \times \frac{-21}{10} \times 1 \times \frac{1}{4}$$

$$5 \times -10 \times \frac{1}{4}_2 \times \frac{-21}{40} = \frac{525}{40}$$

64. If 15 added to the square of a number is 6 less than the square of its successor. Then, the number is

(a) 6

(b) 10

(c) 12

(d) 8

$$n^2 + 15 = n^2 + 6$$
$$15 - 6 = n^2 - n^2$$
$$9 = n$$
$$3 = n$$

65. A bag contains 5 red, 8 black and 7 white balls. One ball is chosen at random, the probability that the chosen ball is not black is :

(a) $\frac{2}{3}$

(b) $\frac{2}{5}$

(c) $\frac{3}{5}$

(d) $\frac{1}{3}$

5 Red
8 b   20
7 w

$$\frac{12}{20}\frac{6}{10}\frac{3}{5}$$

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66. The value of $16x^2 - 24xy + 9y^2$, when $x = \frac{1}{4}$ and $y = \frac{1}{3}$ is

(a) 2

(b) −1

(c) 1

(d) 0

67. The area of a trapezium is 28 sq cm and one of its parallel sides is 8 cm. If the distance between the parallel sides is 4 cm, then the other parallel side is

(a) 8 cm

(b) 7 cm

(c) 9 cm

(d) 6 cm

68. How many persons can be accommodated in a hall of dimension 20m×16m×4.5m, assuming that each person requires 4m³ of air ?

(a) 360

(b) 320

(c) 310

(d) 240

69. The value of expression, $\dfrac{\left(p^{m+n}\right)^3 \times \left(p^{n+l}\right)^3 \times \left(p^{m+l}\right)^3}{\left(p^m \times p^n \times p^l\right)^5}$ is equal to

(a) $p^{-(m+n+l)}$

(b) $p^{(2m + 2n + 2l)}$

(c) p^{m+n+l}

(d) p^{mln}

18

70. Which one of the following is a true statement ?

   (a)   0 is the addition identity for natural number

   (b)   Every rational number has its reciprocal

   (c)   Integers are closed for subtraction

   (d)   Real numbers are closed for division

71. The value of

$$\left(\frac{1}{\sqrt{9}-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-\sqrt{4}} \right) \text{ is}$$

   (a)   0   (b)   1

   (c)   5   (d) $\frac{1}{3}$

72. If principal = Rs. 100000, rate of interest = 10% compounded half-yearly, then amount after 6 months is :

   (a)   115000

   (b)   105000

   (c)   205000

   (d)   95000

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19

73. The digits of a two-digit number differ by 3. If the digits are interchanged, and the resulting number is added to the original number, we get 143. What is the original number ?

a−b = 3

(a) 36　　　　　　　　　　　(b) 76

(c) 85　　　　　　　　　　　(d) 89

74. The value of $\left(\sqrt{18225} + \sqrt{182.25} + \sqrt{1.8225} + \sqrt{0.018225}\right)$ is

(a) 1.49985　　　　　　　　(b) 14.9985　　[Repeated ges]

(c) 149.985　　　　　　　　(d) 1499.85

75. The height of two right circular cylinders are same. Their volumes are $16\pi m^3$ and $18\pi m^3$ respectively. The ratio of their base radii is

$\frac{\pi r_1^2 h}{\pi r_2^2 h} = \frac{16}{18}$

$\frac{r_1^2}{r_2^2} = \frac{16}{18}$

h = h

[will be deleted]

(a) 4:9　　　　　　　　　　(b) 9:4

(c) 16:81　　　　　　　　　(d) 2:3

76. Which of the following relationship is named as Euler's formula :

(a) F + E = V + 2

[Repeated ges]

(b) V + E = F + 2

(c) F + V = E + 2

(d) F + V = E − 2

77. Find the smallest number by which the number 2401 must be divided to obtain a perfect cube :

(a) 8

(b) 4

(c) 6

(d) 7

78. Sum of the digits of a two digit number is 9. When we interchange the digits, it is found that the resulting new number is greater than the original number by 27. What is two digit number ?

(a) 63

(b) 36

(c) 45

(d) 54

79. Which is having the largest value : $2^{250}, 3^{150}, 5^{100}$ and 4^{200}

(a) 4^{200}

(b) 5^{100}

(c) 2^{250}

(d) 2^{150}

[11th entorance]

80. If $a = \sqrt{2} + 1$ and $b = \sqrt{2} - 1$, then the value of $\dfrac{a^2 + ab + b^2}{a^2 - ab + b^2}$ is

(a) $32 - 4\sqrt{2}$

(b) $32 + 4\sqrt{2}$

(c) 0

(d) $\dfrac{7}{5}$

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81. 8 men can do a piece of work in 10 days. How long will 10 men take to complete the same work ?

(a) 12 days

(b) 8 days ✓

(c) 7 days

(d) 6 days

Handwritten work:

M   D
8 → 10
10 → n

$\dfrac{8 \times 10}{10} = n$

$\boxed{8 = n}$

82. The polynomial $2x^3 - 5x^2 + mx + n$ is divisible by $x^2 - 4$, if

(a) $(m, n) = (2, 3)$

(b) $(m, n) = (8, -20)$ ✓

(c) $(m, n) = (-8, 20)$

(d) $(m, n) = (4, 7)$

Handwritten work:

$x^2 - 4 = 0$
$x^2 = 4$
$\boxed{x = 2}$ [out of syllabus]

$2 \times 8 - 5 \times 16 + 2m + n$
$16 - 20 + 2m + n = 0$
$16 - 80 + 2m + n = 0$
$64 + 2m + n = 0$
$2m + n = -64$
$2m = -64 - n$

$2m + n = -64$

83. Simplify : $\dfrac{4^{-3} \times a^{-5} \times b^{-4}}{4^{-5} \times a^{-8} \times b^{3}}$

(a) $16 \dfrac{a^3}{b^{-7}}$ ✓

(b) $8 \dfrac{a^2}{b^{-7}}$ [will be deleted]

(c) $\dfrac{2a^{-13}}{b^{-7}}$

(d) $\dfrac{a^8}{b^{-1}}$

Handwritten work:

$4^{-3+5} \times a^{-5+8} \times b^{-4-3}$

$4^2 \times \dfrac{a^3}{b^7} \times b^{0}$

$\dfrac{16 \ a^3}{4^{-3+5} \times a^{-5+8} \div b^{3-4}}$

$\dfrac{4^2 \times a^3}{b^{-7}}$

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84. The dimensions of a room are 10m × 8m × 6m. The cost of white washing the 4 walls of the room at rate of Rs. 15 per m² is

    (a) Rs. 2300

    (b) Rs. 7200

    (c) Rs. 3240 ✓

    (d) Rs. 5240

    $2[l+b] \times h$
    $2[80] \times 6$
    $2 \times 80 \times 6$
    960×15

85. Two identical cubes, each of total surface area 54 cm² are joined end to end. What will be the total surface area of the figure so formed ?
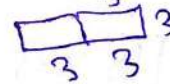
    (a) 54 cm²

    (b) 108 cm²

    (c) 90 cm² ✓

    (d) 180 cm²

    T.S.A $= 54$
    $6l^2 = 54$
    $l^2 = 9$
    $l = 3$

    $2[lb+bh+lh]$
    $2[18+9+18]$
    90

    $2[l+b] \times h$
    $2[10+8] \times 6$
    $2 \times 18 \times 6$
    196×15

NNHQ