

# Council for Technical Education & Vocational Training (CTEVT)

## Diploma /Certificate Level Classified Entrance Exam 2081

Full Marks: 70

Time: 1 Hour 45 Min

### ENGLISH

1. She shut the door .....?  
a. won't she    b. doesn't she    c. didn't she    d. isn't she
2. Let's stop here .....?  
a. will you    b. shall we    c. won't we    d. shan't you
3. Every preparation .....for the examinations that will start in half an hours time.  
a. is making    b. has been made    c. are being made    d. has made
4. Why don't you get the shoes .....? They took shabby.  
a. polished    b. to be polished    c. to polish    d. polishing
5. Neither of you parents .....careless  
a. are    b. is    c. has    d. have
6. The water in these three bottles ..... not drinkable.  
a. have    b. has    c. are    d. is
7. Cattle .....in these pastures round the year.  
a. graze    b. is grazing    c. are grazing    d. grazes
8. You should not laugh .....others.  
a. to    b. on    c. at    d. by
9. Do you want to speak .....me about anything?  
a. to    b. with    c. by    d. from
10. ....he is rich, he never spends money for the education of his child.  
a. Although    b. Because    c. Therefore    d. In spite of
11. Our eyes met while crossing the street .....didn't greet each other.  
a. but    b. and    c. because    d. so
12. You have given me .....useful book  
a. such    b. such a    c. such the    d. such an
13. ....water in the glass is pure.  
a. The    b. A    c. No article    d. some
14. My sister .....down while she was running.  
a. fall    b. has fallen    c. fell    d. falls
15. She thanked me for what I .....for her.  
a. am doing    b. did    c. had done    d. have done
16. If you were older, you .....much more sense.  
a. had    b. had had    c. would have    d. have done
17. If it .....we will stay inside.

- a. will rain      b. rains      c. has rained      d. would rain
18. She asked him where ..... going.  
a. are you      b. he was      c. was he      d. you are
19. Help me now and I will help you ....this year.  
a. litter      b. latter      c. latter      d. later
20. The tea .....bad; I can't drink it.  
a. is smelling      b. smelt      c. smells      d. we smell

### SCIENCE

21. When a body is thrown up, the force of gravity is ....  
(जब वस्तुलाई माथितर फालिन्छ, गुरुत्वबल.....दिशामा लाग्दछ ।)  
a. in upward direction      b. in downward direction  
c. zero      d. in horizontal direction
22. The unit of acceleration is ..... (प्रवेगको एकाई.....हो।)  
a. m/s      b. m/s<sup>2</sup>      c. m/s<sup>3</sup>      d.ms
23. On which law/principle is a lactometer based?  
(लथाक्टोमिटर कुन नियम /सिद्धान्तमा आधारित छ ?)  
a. Pascal's law      b. Archimedes principle  
c. Law of Gravitation      d. Newton's Law
24. What is lower fixed point of the thermometer in Celsius scale, Farenheit and Kelvin scale respectively? (सेल्सियस, फरेनहाईट र क्याल्भिन स्केलमा थर्मोमिटरको तल्लो स्थिर बिन्दु कति हुन्छ ?)  
a. 0°C, 0°F, 0K      b. 0°C, 32°F, 273K  
c. 0°C, 180°F 373K      d. 0°C, 212°F, 373K
25. Which of the following is the example of longitudinal wave?  
(तलका मध्ये कुन चाहिँ लङ्गी तरङ्गको उदाहरण हो?)  
a. Sound Wave      b. Light wave  
c. Wave on the surface      d. Radio Wave
26. From which substance is the heating element in the electric heater made from? (विद्युत हिटरमा प्रयोग हुने हिटिङ इलिमेन्ट कुन पदार्थबाट बनाईन्छ?)  
a. Copper      b. Constantan      c. Tungsten      d. Nichrome
27. Which scientist discovered the magnetic effect of electric current?  
(विद्युत् धाराको चुम्बकीय असर कुन वैज्ञानिकले पत्ता लगाएका हुन् ? )  
a. Michael Faraday      b. Hans Christian Oersted  
c. John Ambrose Fleming      d. James Clerk Maxwell
28. What is the value of the Giga prefix? (Giga prefix को मान कति हुन्छ ? )  
a. 10<sup>11</sup>      b. 10<sup>10</sup>      c. 10<sup>9</sup>      d. 10<sup>12</sup>
29. Which of the following represents an analogue signal?  
(तलका मध्ये कुनले एनालग सिग्नलको प्रतिनिधित्व गर्छ ?)  
a. Infrared Ray Thermometer      b. Computer  
c. Smart Watch      d. Medium Wave Radio
30. ....indicates 1-byte memory. (.....मेमोरी जनाउँछ ।)  
a. 0000      b. 00000000      c. 100000      d. 000001



31. Which is the main element found in the nebula?

(नेबुलामा हुने प्रमुख तत्व कुन हो ?)

- a. Argon                      b. Carbon                      c. Nitrogen                      d. Hydrogen

32. What is the meaning of 'H' in Hubble's law;  $v=Hd$ ?

(हब्लको सिद्धान्त,  $v=Hd$  मा 'H' को अर्थ के हो ?)

- a. Height                      b. Gravitation Constant  
c. Constant Proportionality                      d. Distance

33. Which statement about action and reaction is true?

(क्रिया र प्रतिक्रियाको सन्दर्भमा कुन भनाई सहि हुन्छ ?)

- a. One cancels other  
b. Both act on the same body  
c. Both are equal and act in same direction  
d. Act on different object

34. Which of the following atom has valency 3?

(तलका मध्ये संयुज्यकता तीन तीन भएको प्रमाण कुन हो ?)

- a. Oxygen                      b. Aluminium                      c. Calcium                      d. Chlorine

35. In which group do the elements having electronic configuration  $1s^2, 2s^2, 2p^3$  lie? (इलेक्ट्रोनिक विन्यास  $1s^2, 2s^2, 2p^3$  भएको तत्व आधुनिक पेरियोडिक तालिकाको कुन गुपमा पर्छ ?)

- a. III A                      b. IIIB                      c. V A                      d. V B

36. What is the name of gas formed on heating limestone to a high temperature using coal? (चुनढुङ्गालाई भट्टीमा उच्च तापक्रममा कोइलसगँ तताउँदा बन्ने ग्यास कुन हो ?)

- a. Carbondioxide                      b. Ammonia                      c. Oxygen                      d. Hydrogen

37. Which is the main ore of Iron? (फलामको मुख्य धाउ कुन हो ?)

- a. Bauxite                      b. Hematite                      c. Argentite                      d. Pyrite

38. Which hydrocarbon is kept in the alkane group?

(तलका मध्ये कुनचाहीं हाइड्रोकार्वन अल्केन समुह अर्न्तगत पर्छ ?)

- a. Methane                      b. Acetylene                      c. Ethene                      d. Propyne

39. Which of the following is a group of insecticides?

(तलका मध्ये कुन किटनासक समुह हो ?)

- a. Potassium Chloride, Aldrin, benzene hexachloride  
b. DDT, Sodium Chloride, Aldrin  
c. Dieldrin, DDT, Methoxy Chloride  
d. Potassium Chloride, Aldrin, Malathion

40. To which class do egg-laying animals with a four chambered heart and body covered with feather belong? (मुटुमा चारकोठा हुने, शरीरमा भुत्ला र पखेटा भएको ओभिप्यारस जनावर कुन समुहमा पर्छ ?)

- a. Mammalia                      b. Reptilia                      c. Aves                      d. Amphibia

41. How many sex Chromosomes are found in the human cell?

(मानिसको कोषमा कति जोडा सेक्स क्रोमोजोम हुन्छन् ?)

- a. 1 pair                      b. 22pairs                      c. 23 pairs                      d. 46 pairs

42. What is the term for a characteristic that is passed down from generation to generation? (एउटा वंशबाट अर्को वंशमा सर्ने गुणलाई के भनिन्छ ?)

- a. Dominant Character                      b. Recessive Character



c. Hereditary Character

d. Imported Character

43. Rita's grandfather has a problem of swelling of the joints and pain in the body when he eat red meat, legumes and fried foods. What is his problem? (रिताको हजुरबुबालाई रातो गेडागुडी तथा तारेको खानेकुरा खाँदा शरिर दुख्ने, जोर्नीहरु सुन्निने देखिएको छ । उनलाई के समस्या भएको होला ?)

a. High blood pressure

b. High blood glucose level

c. Uric acid

d. Anemia

44. Which part of Bojo is used for medical purpose?

(बोजोको कुन भाग औषधीको रूपमा प्रयोग गरिन्छ ?)

a. Rhizome

b. Leaf

c. Stem

d. Flower

45. In which organ is cardiac muscles found? (कार्डियाक मसल तन्तु कुन अङ्गमा पाइन्छ ?)

a. Stomach

b. Kidney

c. Heart

d. Pancreas

## MATH

46. If  $A = \{1,2,4,5\}$  and  $B = \{2,3,4,6\}$ , what is the value of  $n(A \cup B)$ ?

(यदि  $A = \{1,2,4,5\}$  र  $B = \{2,3,4,6\}$ , भने  $n(A \cup B)$  को मान कति हुन्छ ?)

a. 2

b. 4

c. 6

d. 8

47. If A and B are two sets, what is equal to  $B \cap (A \cup B)$ ?

(यदि A र B दुइओटा समुहहरु छन् भने  $B \cap (A \cup B)$  बराबर कति हुन्छ ?)

a. A

b.  $\phi$

c.  $A \cup B$

d. B

48. An article is sold for Rs. 675 after allowing the discount of 10%. What is the marked price of the article? (एउटा वस्तु १० प्रतिशत छुट दिएर रु ६७५ मा बेच्दछ भने सो वस्तुको अङ्कित मूल्य कति हुन्छ ?)

a. Rs. 675

b. Rs. 700

c. Rs. 750

d. Rs. 775

49. The population of a village at present is P. If the population increases by r % every year, what is the population of the village after n years?

(एउटा गाउँको जनसंख्या हालको P छ । यदि जनसंख्या प्रति वर्ष r% ले वृद्धि हुन्छ भने सो गाउँको जनसंख्या n वर्ष पछि कति हुन्छ ?)

a.  $P \left(1 + \frac{R}{100}\right)^n$

b.  $P \left(1 + \frac{r}{100}\right)^n$

c.  $P \left(1 + \frac{R}{100}\right)^T$

d.  $P \left(1 + \frac{r}{100}\right)^T$

50. The Volume of a cylindrical pot is 1.54 litre. If the height of the pot is 20 cm, what is the base area of the pot? (एउटा बेलनाकार भाडाँको आयतन १.५४ लीटर छ । यदि उक्त भाडाको उचाइ २० से.मी. छ भने भाडाँको आधारको क्षेत्रफल कति हुन्छ ?)

a.  $0.7\text{cm}^2$

b.  $7.7\text{cm}^2$

c.  $77\text{cm}^2$

d.  $770\text{cm}^2$

51. The area of an equilateral triangle is  $16\sqrt{3}$  sq.cm. what is the perimeter of the triangle? (एउटा समबाहु त्रिभुजको क्षेत्रफल  $16\sqrt{3}$  वर्ग से.मी. छ । सो त्रिभुजको परिमीति कति हुन्छ ?)

a. 8cm

b. 16cm

c. 24cm

d. 32cm

52. If  $\sqrt{3x-11} - 8 = 0$ , what is the value of x?

(यदि  $\sqrt{3x-11} - 8 = 0$  भने x को मान कति हुन्छ ?)

a. 0

b.  $\frac{19}{3}$

c. 25

d. 75

53. What is the arithmetic mean between two numbers a and b?

(दुई सख्या a र b विचको एउटा समानान्तरीय मध्यमा कति हुन्छ ?)

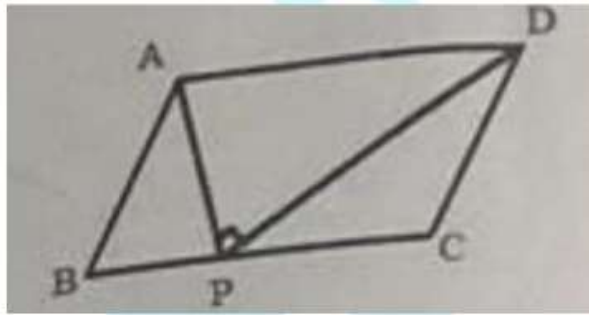
- a.  $\frac{a+b}{2}$       b.  $\frac{a-b}{3}$       c.  $\sqrt{ab}$       d.  $(a+b)^2$

54. What is the formula to find the sum of arithmetic series having n terms?

(समानान्तरीय श्रेणीको n औं पदको योगफल निकाले सुत्र कुन हो ?)

- a.  $a+(n-1)d$       b.  $\frac{n}{2}[a+(n-1)d]$       c.  $\frac{n}{2}[2a+(n-1)d]$       d.  $\frac{n}{2}(a+d)$

55. In the given figure, ABCD is a parallelogram. If AP=6cm, PD=10cm and  $\angle APD = 90^\circ$ , what is the area of the parallelogram ABCD? (दिइएको चित्रमा ABCD एउटा समानान्तर चतुर्भुज हो। यदि AP = 6 cm, PD = 10 cm र  $\angle APD = 90^\circ$  भन्ने समानान्तर चतुर्भुज ABCD को क्षेत्रफल कति हुन्छ।)



- a.  $30\text{cm}^2$       b.  $60\text{cm}^2$       c.  $120\text{cm}^2$       d.  $240\text{cm}^2$

56. What is the formula to calculate mode of continuous data?

(एउटा वर्गीकृत तथ्याङ्कको रित निकाले सुत्र के हो ?)

- a.  $L + \frac{\frac{N}{2} - \text{c.f.}}{f} \times h$       b.  $L + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times h$   
c.  $L + \frac{f_1 + f_0}{2f_1 - f_0 - f_2} \times h$       d.  $L + \frac{f_1 - f_0}{2f_1 - f_0 + f_2} \times h$

57. A fair dice is rolled two times. What is the probability of getting 6 in the first roll and 4 in the second roll? (एउटा डाइसलाई दुई पटक उफार्दा पहिलो पटकमा ६ र दोस्रो पटकमा ४ आउने सम्भाव्यता कति हुन्छ ?)

- a.  $\frac{1}{2}$       b.  $\frac{1}{36}$       c.  $\frac{1}{18}$       d. 1

58. What are the value of x in  $2x^3=8x$ ? ( $2x^3=8x$  मा x को मानहरु कति हुन्छ ?)

- a. 2      b.  $\pm 2$       c. 0,  $\pm 2$       d. 0, 2

59. If 8 is added to the square of a natural number, then the sum is 44. What is the number? (एउटा प्राकृतिक सङ्ख्याको वर्गमा ८ जोडदा योगफल ४४ हुन्छ भन्ने सो सङ्ख्या कति हो ?)

- a. 4      b. 6      c. 8      d.  $\pm 6$



60. What is the relation between the area of rectangle and a square standing of the same base and between the same parallel lines?

(उही आधार र उही समानान्तर रेखाहरु बिच बनेका एउटा आयत र एउटा वर्गको क्षेत्रफल बिचको सम्बन्ध के हुन्छ ?)

- a. Equal                      b. Unequal                      c. Half of one                      d. Double of one

61. What is the compound interest of Rs. 40,000 for 2 years at the rate of 10% compounded half yearly?

(रु ४०,००० को २ वर्षमा १० प्रतिशत अर्धवार्षिक चक्रिय व्याजदरले कति चक्रिय व्याज हुन्छ ?)

- a. Rs. 8000                      b. Rs. 8620                      c. Rs. 8620.25                      d. 48620.25

62. What is the geometric mean between two numbers 2 and 32?

(दुई सङ्ख्या २ र ३२ बिचमा पर्ने एउटा गुणोत्तर मध्यमा कति हो ?)

- a. 6                      b. 8                      c.  $\pm 8$                       d. 17

63. What is the formula to calculate the total surface area of a cone?

(एउटा सोलीको पुरा सतहको क्षेत्रफल निकाल्ने सूत्र के हो ?)

- a.  $\pi r l$                       b.  $2\pi r^2 l$                       c.  $\pi r(r+1)$                       d.  $\frac{1}{3} \pi r l$

64. A sum of money doubles in 10 years at the rate of simple interest, in how many years would it trebles itself? (कुनै धनराशी साधारण व्याजदरले १० वर्षमा दोब्बरहुन्छ भने कति वर्षमा सो धनराशी तेब्बर हुन्छ ?)

- a. 15 years                      b. 18 years                      c. 20 years                      d. 30 years

65. The area of a square having the length of a side  $(x+2)m$  is 64sq.m what is the value of x? (एउटा भुजाको लम्बाइ  $(x+2)$  मी. भएको एउटा वर्गको क्षेत्रफल ६४ वर्ग मी. छ भने x को मान कति हुन्छ ?)

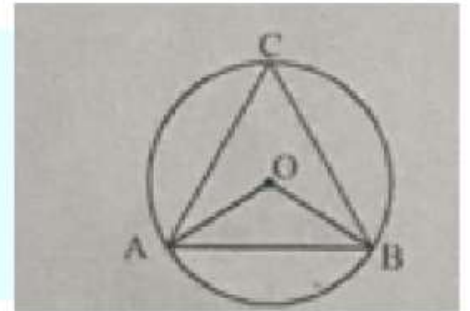
- a. 6                      b. 8                      c. 14                      d. 18

66. In the given figure, O is the centre of a circle.

If  $\angle ACB = 40^\circ$ , what is the value of  $\angle OAB$ ?

(दिइएको चित्रमा O वृत्तको केन्द्रबिन्दु हो। यदि  $\angle ACB = 40^\circ$  छ भने  $\angle OAB$  को मान कति हुन्छ ?)

- a.  $40^\circ$                       b.  $50^\circ$   
c.  $80^\circ$                       d.  $60^\circ$



67. If  $P(X) = \frac{1}{5}$  and  $P(Y) = \frac{2}{5}$ , where X and Y are two mutually exclusive events then what is the value of  $P(X \cup Y)$ ?

(यदि  $P(X) = \frac{1}{5}$  र  $P(Y) = \frac{2}{5}$  छन् भने जहाँ X र Y दुई पारस्परिक निषेधक घटना हुन् भने  $P(X \cup Y)$  को मान कति हुन्छ ?)

- a.  $\frac{1}{5}$                       b.  $\frac{2}{5}$                       c.  $\frac{3}{5}$                       d. 0

68. A man is observed the top of a tree on the bank of a river from the opposite bank and the angle of elevation is found to be  $30^\circ$ . If the height of the tree is 30ft., what is the width of the river? (एक जना मानिसले नदिको एउटा किनाराबाट अर्को किनारामा रहेको एउटा रुखको टुप्पोमा अवलोकन गर्दा उन्नताशं कोण  $30^\circ$  पाएछ। यदि रुखको उचाइ 30 फिट छ भने नदिको चौडाई कति रहेछ ?)