INTERNATIONAL INDIAN SCHOOL DAMMAM

ANNUAL EXAMINATION (2017-2018)

Subject:Mathematics Time: 3 Hours

Class : 8 Max.Marks: 80

Set –A

General Instructions:

a) All questions are compulsory. However internal choice has been given for one question each in section B , section C and section D.
b) The question paper consists of 29 questions divided into 4 sections.
c) Section A contains 5 questions of 1 mark each, Section B contains 6 questions of 2 marks each, Section C contains 9 questions of 3 marks each and Section D contains 9 questions of 4 marks each.

Section – A (1×5=5m)

1. Check the divisibility of 152875 by 3.
2. When a die is thrown what is the probability of getting an 8.
3. Write the additive inverse of $\frac{-2}{-9}$
4. Find the common factors of $3x^2y^3$, $10x^3y^2$ and $6x^2y^2z$
5. Write in 0.0000045 standard form

Section-B (2×6=12m)

6. A man takes 20 steps to cover a distance of 18m. How many steps will he need to take to cover a distance of 396m?
7. Find area of rhombus whose diagonals are 8cm and 14cm long.

   OR

   Find the side of a cube whose total surface area is 486cm^2.
8. Represent $\frac{-2}{7}$, $\frac{3}{7}$, $\frac{5}{7}$, $\frac{-6}{7}$ on the number line.

9. The following table gives the grouped frequency distribution of the marks obtained by 60 students in mathematics test.

Marks	0 - 10	10 - 20	20 – 30	30 - 40	40 -50
No. of students	2	10	21	19	8

(a) What is the size of class intervals?

(b) How many students got marks 30 and above?

(c) If students getting less than 20 failed, how many students failed?

(d) In the class interval 20 -30, what is the upper class limit?

10. Evaluate using laws of exponents: $(2^8 \div 2^5)^2 \times 2^{-5}$

11. Find product of: $(a + b)(a^2 - ab + b^2)$.

Section-C (3×9=27m)

12. The sum of three consecutive multiples of 7 is 252. Find the three multiples.

OR

The present age of Aman's mother is three times the present age of Aman. After 5 years their ages will add to 66 years. Find their present ages.

13. A car takes 2 hours to reach a destination by travelling at the speed of 60km/hr.

a) How long will it take if the car travels at speed of 80km/hr.

b) What should be the speed of car if it has to reach the destination in 5 hours.

14. Simplify using suitable identities: $(2m + 4n)^2 - (2m - 4n)^2$

15. Area of a trapezium is 352cm^2 and the distance between parallel sides is 16cm. If one of the parallel sides is of length 25cm, find the length of the other parallel side.

16. Factorise : 6xy -4y +6 -9x

17. Solve: $\frac{3y+10}{5y+6} = \frac{5}{7}$

18. Simplify using laws of exponents: $\frac{9^{-3} \times 27 \times 25^2}{3^{-4} \times 5^2}$

19. Plot the following points on a graph. Find the co-ordinates of the points at which this line meets the X-axis and Y-axis. P(2,6) Q(3,5) R(5,3) S(6,2)

20. Solve by using appropriate properties: $\frac{1}{14} \times \frac{2}{5} + \left(\frac{-1}{6}\right) \times \frac{3}{2} + \frac{3}{7} \times \frac{2}{5}$

SECTION-D (4×9=36m)

21. A closed cuboidal tank of dimensions 15m × 10m × 6m is made from a sheet of metal. How much sheet of metal is required? Find the cost of metal sheet required at the rate of Rs5 per m^2.

22. Factorise the numerator and divide: $44\,(x^4 - 5x^3 - 24x^2)$ by $11x\,(x-8)$

23. Evaluate using suitable identity.
    i) 194×206
    ii) 102^2

24. 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 77. What can be the original number?

25. Construct a square READ, where RE= 5.2cm and write the properties used.

26. The circumference of the base of a cylinder is 88cm and its height is 7cm. Find the volume of the cylinder.

27. Factorise: (i) $25x^2 - 49y^2$ (ii) $9a^2 - 12ab + 4b^2$

OR

Factorise: $x^4 - (y + z)^4$ completely.

28. The average speed of a car is 60km/hr. Draw a linear graph and find the time it takes to cover 270 km.

Time(in hours)	1	2	3	4	5
Distance covered (in kms)	60	120	180	240	300

29. The data on the mode of transport used by 720 students are given below:

Mode of transport	Bus	Cycle	Train	Car	Scooter
Number of students	120	180	240	80	100

Represent the above data by a pie chart.