

2021 - 22



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## National Level Science Talent Search Examination

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### CLASS 5

Please fill the following details immediately

Name \_\_\_\_\_

Hall Ticket No. \_\_\_\_\_

**Questions : 60**

**Time : 60 minutes**

#### INSTRUCTIONS

**Read all instructions carefully before attempting any question.**

- Ensure that the 'Class' printed here and inside, is the same as the test you are appearing for.
- You must complete the paper within the time allotted.
- Do not open this question paper until you are permitted to.
- You are not allowed to use a calculator.
- Figures herein are not to scale. Hence, you cannot depend on the estimate of size or measurement. Use your knowledge of the subject.
- Rough work shall be carried out only in the space provided for the same throughout this booklet. No separate sheets are allowed for the same.
- Return your answer sheet to the invigilator soon after completion and before leaving the examination hall. Take the question paper with you.
- There is no negative marking.
- Results would be made available on [www.unifiedcouncil.com](http://www.unifiedcouncil.com)

**PAPER CODE UN487**



**UCN/QP-5/02**



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**01** Choose the decimals, when rounded off to the nearest hundredth, gives 4.10.

(A) 3.985 (B) 4.094

(C) 4.099 (D) 4.105

**02** Identify the missing number.

$$\bigcirc \div 8 = 497.25$$

(A) 3798 (B) 3897

(C) 3976 (D) 3978

**03** Sara takes 3 min 20 s to finish reading one page of a storybook. If the book has 42 pages, how long will she take to finish reading it ?

(A) 22 min 20 s (B) 1 h 24 min

(C) 134.4 min (D) 2 h 20 min

Space for rough work

- 04** A shopkeeper bought 9 boxes of packet drinks each containing 50 packets. If he repacked them into containers of 6 packets each, how many containers would he get ?
- (A) 70      (B) 72      (C) 74      (D) 75
- 05** The length of a rectangle is four times its breadth. What is the perimeter of the rectangle, if its breadth is 6 cm ?
- (A) 18 cm                      (B) 24 cm  
(C) 40 cm                      (D) 60 cm
- 06** A mug contains 330 ml of water. A jug contains 7 times as much water as the mug. The amount of water in a kettle is 490 ml less than that of the jug. How much more water is there in the kettle than the mug ?
- (A) 2310 ml                      (B) 1820 ml  
(C) 1490 ml                      (D) 1670 ml

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Space for rough work

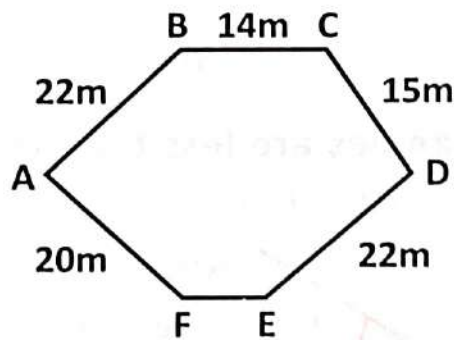
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**07** On Tuesday, 3 classes of 45 pupils each went on an excursion. On Wednesday, another 5 classes of 44 pupils each went on the same excursion. What is the total number of pupils that went on the excursion in the 2 days ?

- (A) 355      (B) 220      (C) 135      (D) 180

**08** The perimeter of the given figure is 102 m. What is the length of EF ?



- (A) 8 m      (B) 9 m      (C) 11 m      (D) 12 m

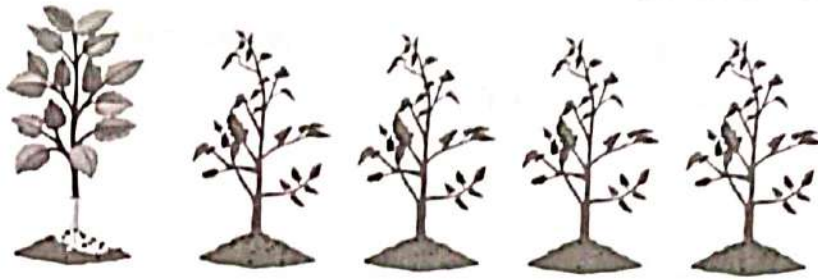
**09** Pavani is thinking of a 2-digit number. It is less than 90 but greater than 55. The number can be divided exactly by both 4 and 6. The digit in tens place is twice the digit in the ones place. What is the number Pavani is thinking of ?

- (A) 60      (B) 68      (C) 48      (D) 84

Space for rough work



**14** A group of students planted trees around their school.



They planted 40 trees altogether. They planted one gum tree for every 4 Mango trees. How many mango trees were planted ?

- (A) 36      (B) 32      (C) 10      (D) 8

**15** A rope is 900 cm. It is cut into 2 pieces. One of the pieces is 58 cm longer than the other. If 227 cm is cut off from the longer piece, what is the remaining length of the longer piece ?

- (A) 252 cm      (B) 421 cm  
(C) 479 cm      (D) 842 cm

**16** Identify the greatest value.

- (A)  $\frac{18}{25}$       (B) 0.357  
(C) 0.864      (D)  $\frac{13}{20}$

Space for rough work

- 20** A wire 48 cm long is bent to form a square. Find the area of the square.
- (A)  $144 \text{ cm}^2$                       (B)  $169 \text{ cm}^2$   
(C)  $121 \text{ cm}^2$                       (D)  $160 \text{ cm}^2$
- 21** An organiser order 45 pies, 55 slices of pizzas and 70 cupcakes for an event. Choose the ratio of the number of slices of pizzas to the number of cupcakes to the number of pies.
- (A) 11 : 14 : 19                      (B) 14 : 11 : 9  
(C) 11 : 14 : 9                      (D) 9 : 14 : 21
- 22** Choose the sum of  $\frac{3}{4}$  of 560 and  $\frac{1}{3}$  of 600.
- (A) 520                                      (B) 420  
(C) 620                                      (D) 720

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Space for rough work

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- 23** If ₹60 is divided into two parts in the ratio 2:3, identify the difference between those two parts.
- (A) ₹10 (B) ₹12  
(C) ₹5 (D) ₹14
- 24** Rajesh left the office 1 h 25 min before noon. What time did Rajesh leave the office ?
- (A) 10:35 a.m. (B) 11:35 a.m.  
(C) 01:25 p.m. (D) 10:35 p.m.
- 25** A maid spent  $\frac{1}{2}$  of the day cleaning the house and  $\frac{1}{4}$  of the day washing the cars. What fraction of the day did she have left for herself ?
- (A)  $\frac{1}{4}$  (B)  $\frac{1}{2}$  (C)  $\frac{3}{4}$  (D)  $\frac{4}{5}$

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Space for rough work

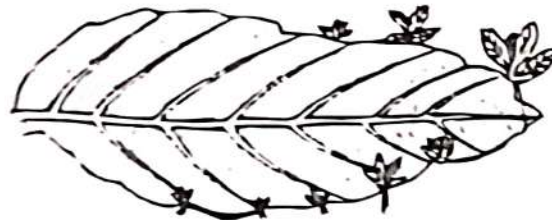
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- 26** Blood vessels 'X' take oxygen rich blood away from the heart to different parts of the body. Which vessels are we talking about ?
- (A) Arteries (B) Veins  
(C) Capillaries (D) All of these
- 27** The life cycles of plants vary from plant to plant. Some plants live for a year while others can live for centuries. What plants take two years to complete their life cycles called ?
- (A) Annual (B) Biennial  
(C) Perennial (D) None of these
- 28** Identify the layer that surrounds the earth and acts as a blanket. It contains a mixture of gases including oxygen which most organisms need to breathe and it protects us from the harmful radiations of the Sun.
- (A) Hydrosphere (B) Cryosphere  
(C) Atmosphere (D) Lithosphere
- 29** Which of the following is/are to reduce friction ?
- (i) Use of lubricants  
(ii) Changing the sliding movement to rolling movement  
(iii) Increasing roughness of the surfaces
- (A) (i) only (B) (i) and (ii) only  
(C) (ii) only (D) (iii) only

- 30** Which of the following instrument is used to know the rate of heart beat ?
- (A) Stethoscope                      (B) Bioscope  
(C) Periscope                         (D) Hygroscope
- 31** Photosynthesis is the process by which a plant makes food. What does this process produce in the leaf part of the plant ?
- (A) Glucose and oxygen  
(B) Water, carbon dioxide and sugar  
(C) Carbon dioxide and sugar  
(D) Oxygen and carbon dioxide
- 32** Given figure shows the production of new plants from the notches of a leaf.



**Identify the plant.**

- (A) Rose                                      (B) Bryophyllum  
(C) Potato                                    (D) Xanthium

**Space for rough work**

**33** Which of the following determines weather of a place ?

- (A) Temperature                      (B) Wind  
 (C) Moisture                            (D) All of these

**34** Match the following animals in column I with their organs of respiration in column II and select the correct option.

	Column I		Column II
a.	Fish	i.	Skin
b.	Earthworm	ii.	Gills
c.	Dolphin	iii.	Trachea
d.	Mosquito	iv.	Lungs

- (A) a - i; b - ii; c - iii; d - iv  
 (B) a - ii; b - i; c - iv; d - iii  
 (C) a - iv; b - iii; c - ii; d - i  
 (D) a - iii; b - iv; c - i; d - ii

Space for rough work

- 35** In which of the following conditions, seed will germinate? (✓ represents presence and ✗ represents absence.)





	Air	Warmth	Water	Sunlight
(A)	✓	✓	✗	✓
(B)	✗	✓	✓	✓
(C)	✓	✓	✓	✗
(D)	✗	✗	✓	✓

- 36** Identify the option that contains a group of diseases which can spread from one person to another.

- (A) Malaria, Anaemia and Cholera  
(B) Typhoid, Common cold and Rickets  
(C) Amoebic dysentery, Goitre and Malaria  
(D) Measles, Chicken pox and Cold

Space for rough work

**37** Match the following examples in column I with the type of simple machine in column II and select the correct option.

	Column I		Column II
a		i	Wedge
b		ii	Inclined plane
c		iii	Lever
d		iv	Pulley

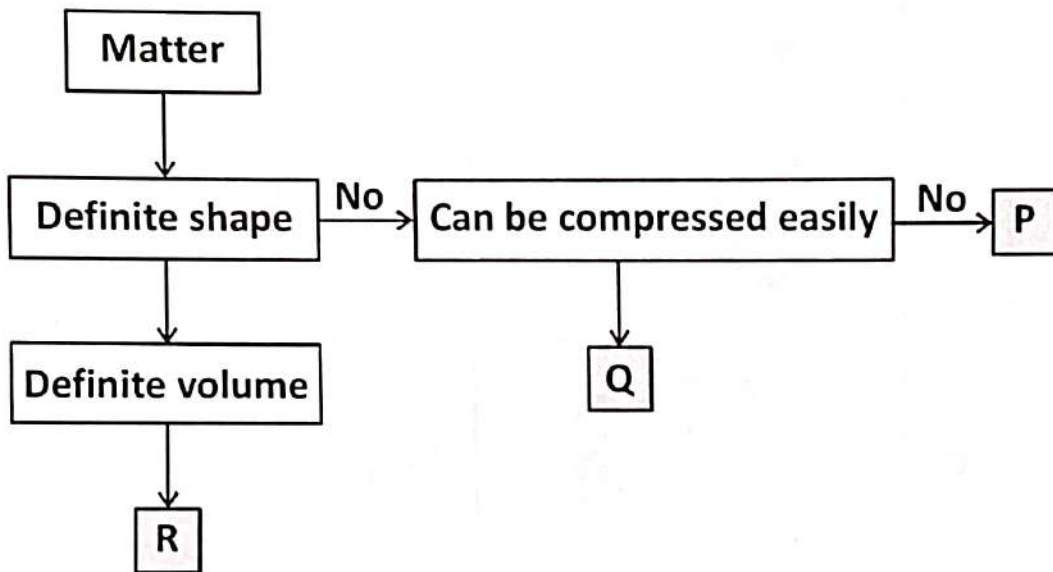
- (A) a - ii; b - iii; c - i; d - iv  
 (B) a - ii; b - iii; c - iv; d - i  
 (C) a - ii; b - iv; c - iii; d - i  
 (D) a - ii; b - iv; c - i; d - iii

Space for rough work

**38** Why astronauts float in space ?

- (A) Due to the absence of Frictional force
- (B) Due to the absence of Gravitational force
- (C) Due to the absence of Muscular force
- (D) Due to the absence of Elastic force

**39** The given flow chart shows properties of matter.

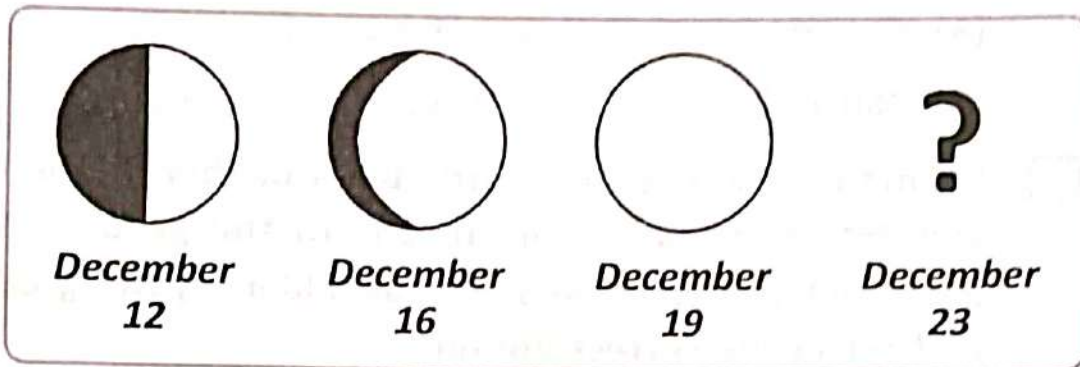


Identify examples P, Q and R from the given options.

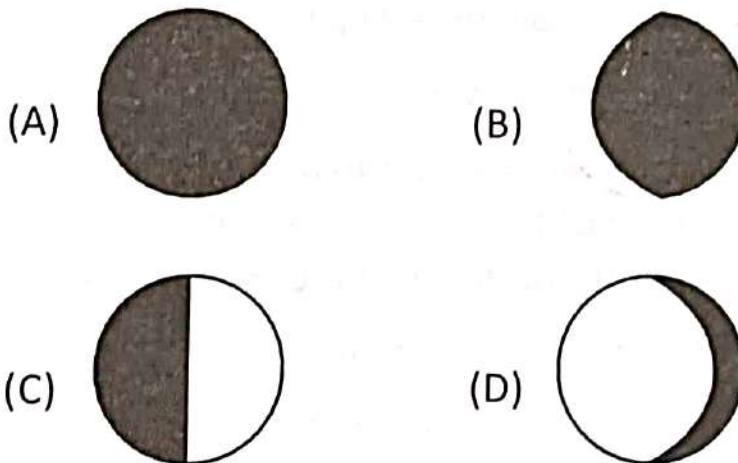
	P	Q	R
(A)	Apple juice	Coffee	Eraser
(B)	Milk	Oxygen	Pencil
(C)	Oxygen	Salt water	Cookie
(D)	Nitrogen	Lamp	Tea

Space for rough work

**40** Study the given figures of a lunar cycle.



Which of the following shows the correct shape of the Moon on December 23 ?



**41** Identify the name of the rock from the given description.

**Rock X is a metamorphic rock. It breaks into thin layers. It is used to make black board.**

**Rock X could be**

- (A) Quartzite      (B) Slate  
(C) Sandstone      (D) Gneiss

- 42** Which of these gases present in air that support burning ?
- (A) Oxygen (B) Carbon dioxide  
(C) Nitrogen (D) Both (B) and (C)
- 43** Seema grouped plants on the basis of their mode of vegetative reproduction. In one of the groups she placed an incorrect one by mistake. Identify this group and select the correct option.
- (A) Potato, Ginger, Turmeric  
(B) Sweet potato, Dahlia, Carrot  
(C) Bryophyllum, Begonia, Sugarcane  
(D) Hibiscus, Bougainvillea, Rose
- 44** Mohit want to separate a mixture of sugar, water and pebbles, which of these separation methods should be used to separate all the three components ?
- (A) Filtration and Evaporation  
(B) Sedimentation and Freezing  
(C) Cooling and Evaporation  
(D) Cooling and Filtration

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Space for rough work

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- 45** X is a type of joint that serves to allow motion in one plane. Z is a type of joint that allows rotatory movement around a single axis. Identify X and Z.
- (A) X could be hinge joint whereas Z could be pivot joint.  
 (B) X could be ball and socket joint whereas Z could be gliding joint.  
 (C) X could be gliding joint whereas Z could be pivot joint.  
 (D) X could be pivot joint whereas Z could be gliding joint.

- 46** Enzymes in saliva acts on
- (A) Starch food                      (B) Fat food  
 (C) Protein food                      (D) Vitamins

- 47** Match the following animals in Column I with the organs that help in locomotion in Column II and select the correct option.

	Column I		Column II
P	Fish	i	Arms
Q	Frog	ii	Paddle-like limbs
R	Turtle	iii	Webbed feet
S	Octopus	iv	Fins

- (A) P - iii; Q - iv; R - ii; S - i  
 (B) P - iv; Q - iii; R - ii; S - i  
 (C) P - iii; Q - iv; R - i; S - ii  
 (D) P - iv; Q - iii; R - i; S - ii

**48** Component of air that is used for making food by plants is present by what percentage in the air ?

- (A) 78% (B) 21%  
(C) 1% (D) 0.03%

**49** Read the given table.

Deficiency disease	Vitamin/ Mineral	Dietary suggestion
Scurvy	P	Citrus fruits
Q	Vitamin A	Green leafy vegetables
Goitre	R	Citrus fruits

Select the option which correctly identifies P, Q and R.

	P	Q	R
(A)	Vitamin B	Rickets	Calcium
(B)	Vitamin C	Night blindness	Iodine
(C)	Calcium	Anaemia	Iron
(D)	Iron	Marasmus	Vitamin D

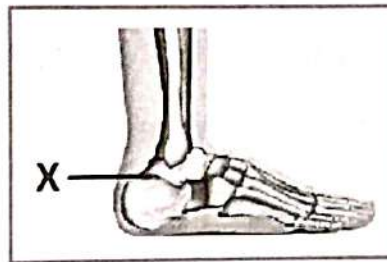
Space for rough work

**50** The fruit shown in the picture is rich in



- (A) Calcium                      (B) Iodine  
(C) Vitamin C                    (D) Vitamin D

**51** "X" is a



- (A) Hinge joint                    (B) Ball and socket joint  
(C) Pivot joint                    (D) Gliding joint

**52** Vulture and hyena feed on dead animals. They are called

- (A) Herbivores                    (B) Omnivores  
(C) Scavengers                    (D) Predators

Space for rough work

**53** Rani and Mary are two friends, Rani is suffering from bleeding gums whereas Mary cannot see properly in dim light. In order to be fit and healthy which of these changes to be followed by Rani and Mary ?

- (A) Rani should include food rich in starch in her diet.
- (B) Mary must avoid eating green leafy vegetables in order to be fit.
- (C) Rani should start eating citrus fruits in order to stay fit.
- (D) Mary should include food rich in calcium in her diet.

**54** Read the given description of an animal X.

- (i) Forelimbs are adapted for flying.
- (ii) Body is covered with feathers.
- (iii) Light and hollow bones.
- (iv) Streamlined body.

X could be

- (A) Penguin
- (B) Bat
- (C) Butterfly
- (D) Pigeon

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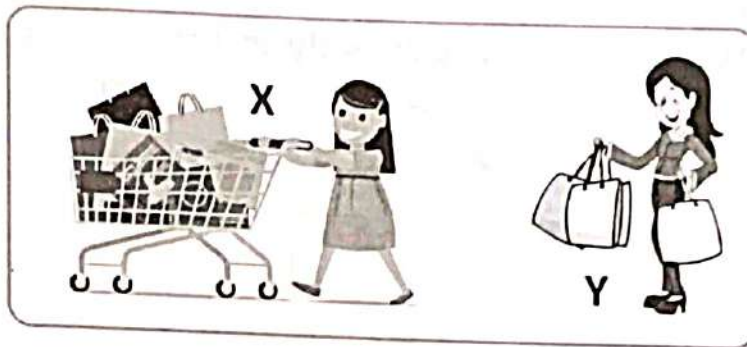
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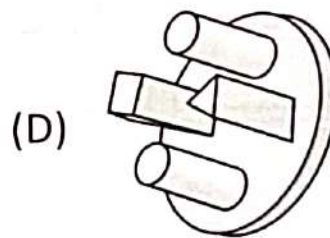
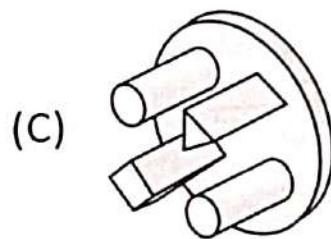
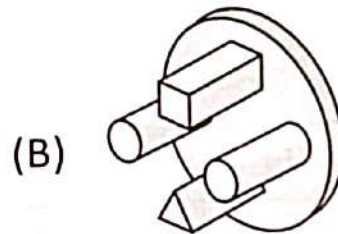
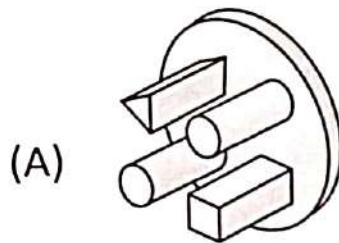
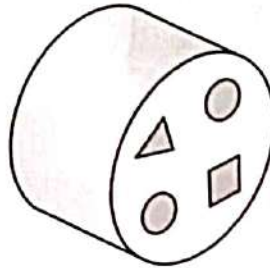
**55** Select the forces that the women X and Y in the given picture need to overcome to carry their groceries.



	X	Y
(A)	Gravity	Friction
(B)	Friction	Gravity
(C)	Friction	Friction
(D)	Pull	Push

Space for rough work

- 56 The given figure is a socket with four holes in it. Which of the plugs will fit perfectly in this socket ?



- 57 Every star in the equation

$2 \star 0 \star 1 \star 5 \star 2 \star 0 \star 1 \star 5 \star 2 \star 0 \star 1 \star 5 = 0$  is to be replaced with either + or - so that the equation is correct. What is the smallest number of stars that must be replaced with + ?

- (A) 1      (B) 4      (C) 3      (D) 2

Space for rough work

**58**

From which of the given options, can we conclude: Half of the oranges with Manu are rotten ?

- (A) Manu and Sonu both have some good and some rotten oranges.
- (B) Manu has double the number of oranges compared to Sonu. All oranges of Sonu are rotten.
- (C) Manu has exactly double the number of oranges compared to Sonu. The percentage of rotten oranges with Manu is same as that with Sonu.
- (D) None of these

**59**

There are 900 bottles to be filled. Ankit and Mouli working independently but at the same time take 30 min to fill the bottles. How long should it take Mouli working by himself to fill the bottles ?

Statement 1 : Mouli fills half as many bottles as Ankit.

Statement 2 : Ankit would take 45 minutes by himself.

Which of the statements above make it possible to answer the question ?

- (A) Statement 1 alone is sufficient, but statement 2 alone is not sufficient.
- (B) Statement 2 alone is sufficient, but statement 1 alone is not sufficient.
- (C) Both statements together are sufficient, but neither statement alone is sufficient.
- (D) Each statement alone is sufficient.

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Space for rough work

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**60** There is a logic to the registration plates of these cars. What is the plate on the last car ?



(A) JNL 1714

(B) JOL 1174

(C) JNL 1741

(D) JOL 1714

Space for rough work