

AAFAQ ACADEMY – KASUR

Paper: Physics

Chapter (6)
FLUID DYNAMICS

Class: F.Sc. Part – I

Name: _____ Roll No: (in words) _____

EVENING GROUP

OBJECTIVE TYPE

Total Marks: 11

Paper Code: _____

Total Time: 10 Minutes

NOTE: Write your **Roll No.** in space provided. Using lead pencil will result in loss of marks.

Q.No.1: You have four choices for each objective type question as A,B,C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Sr. No.	QUESTION	A	B	C	D
1.	With the decrease of temperature, viscosity	Increases	Remains constant	Decreases	None of these
2.	Dimensions of discharge rate are	$[M^0 L T^{-1}]$	$[M L T^{-1}]$	$[M L^2 T^{-2}]$	$[M^0 L^3 T^{-1}]$
3.	Equation of continuity obeys law of conservation of	Energy	Mass	Momentum	Charge
4.	Thick tar and honey have	Small coefficients of viscosities	Moderate coefficients of viscosities	Zero coefficients of viscosities	None of these
5.	The instrument which detects the instant at which the external pressure becomes equal to the systolic pressure is called	Manometer	Barometer	Sphygmomano – meter	Stethoscope
6.	If the streamlines are far apart in a fluid, then	Fluid pressure is high but velocity is low	Fluid pressure is low but velocity is high	Both pressure and velocity are high	Both pressure and velocity are low
7.	If each particle of the fluid passing through a point follows the same path as followed by earlier particles, then fluid flow is called	Steady flow	Laminar flow	Streamline flow	All of these
8.	The force required to slide one layer of the liquid over another layer is measured by	Momentum	Viscosity	Velocity	Acceleration
9.	The product of speed of the fluid and area of cross – section of the pipe is	Zero	Variable	Constant	None of these
10.	Blood has viscosity	Nearly equal to that of water	Greater than the water	Less than that of water	None of these
11.	The systolic pressure is about	125torr	115torr	130torr	120torr

SUBJECTIVE TYPE

Total Marks: 18

Time Allowed: 0 Hours 50 Minutes

SECTION – I (SHORT QUESTIONS)

2. Attempt any FIVE questions. (5 × 2 = 10) Marks

- i. What is meant by drag force? What are the factors upon which drag force acting on a small sphere of radius r moving down through a liquid, depends?
- ii. Explain what do you understand by the term viscosity?
- iii. Explain the difference between laminar and turbulent flow.
- iv. Explain how the swing is produced in a fast moving cricket ball.
- v. State and explain Venturi relation?
- vi. Why fog droplets appear to be suspended in air?
- vii. Explain the working of a carburetor using Bernoulli's principle.

SECTION – II (ESSAY TYPE) Attempt given question

- 3. Do as directed...**
- i. What is rate of flow? State and explain equation of continuity. (5)
 - ii. The radius of the aorta is about 1.0cm and blood flowing through it has a speed of about $30\text{cm} \cdot \text{s}^{-1}$. Calculate the average speed of the blood in the capillaries using the fact that although each capillary has a diameter of about $8.0 \times 10^{-4}\text{cm}$, there are literally millions of them so that their total cross – section is about 2000cm^2 . (3)

SECTION – III (Practical)

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4. (a) Write answer of TWO questions. (2×2=4)
- i. a
 - ii. c
 - iii. v
 - iv. b
4. (b) Write procedure to determine the resistance of voltmeter by graph method. (3)
- (OR)**
- Write procedure to find the unknown high resistance by using neon flash lamp. (3)
4. (c) Answer the following questions on the basis of graph drawn between potential difference (V) and charge (Q). (4)
- i. What you conclude from the graph?
 - ii. Find the capacitance of capacitor from the graph.

Good Luck
Ch. Khalid Mahmood Ashraf