

2.5.3

Physiology Exam Reforms



Dr. Vasantrao Pawar Medical College, Hospital & Research Centre
Vasantdada Nagar, Adgaon, Nashik

DEPARTMENT OF PHYSIOLOGY

1st MBBS 2019-20 Batch

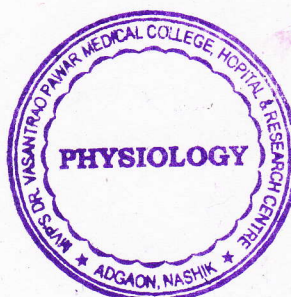
BLUE PRINTING (QUESTIONPAPER)

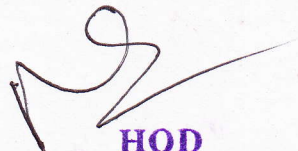
1ST TERMINAL EXAMINATION

Sr no	Topics	Weightage	Marks allotted	MCQ 1 mark each	SAQ 5 mark each	LAQ 10 mark each
1	General Physiology	2	20	5	5	10
2	Nerve Physiology	2	20	5	15	-
3	Muscle Physiology	2	20	5	5	10
4	Blood	3	30	-	10	20
5	Respiratory System	1	30	5	5	-
6	Cardiovascular System	3	10	-	10	20
	Total	13	130	20	50	60

Pattern of question Paper –

Question Type	No of Items	Marks	Marks with options
MCQ (1 mark each)	20	20	20
SAQ (5 marks Each)	8	40	50
LAQ (10 marks each)	4	40	60




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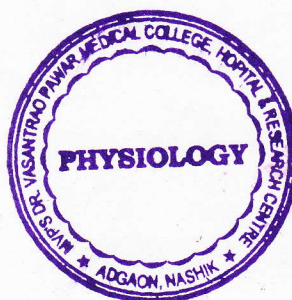
BLUE PRINTING (QUESTION PAPER)

2nd TERMINAL EXAMINATION

Sr no	Topic	Weightage	Marks Allotted	MCQ 1 mark each	BAQ 2 marks each	SAQ 5 mark each	LAQ 10 mark each
1	Respiratory system	3	27	3	4	10	10
2	ECG	1	9	3	6	-	-
3	Endocrines	2	18	3	-	5	
4	GIT + AETCOM	2	18	4	4	10	10
5	Renal	3	27	3	4	10	-
6	Eye	2	18	4	4	10	10
	Total	13	117	20	22	45	30

Pattern of question Paper –

Question Type	No of Items	Marks	Marks with options
MCQ (1 mark each)	20	20	20
Brief Answer Question BAQ (2 marks Each)	10	20	22
SAQ (5 marks Each)	8	40	45
LAQ (10 marks each)	2	20	30



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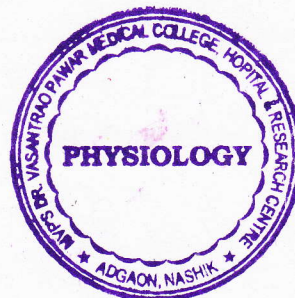
BLUE PRINTING (QUESTION PAPER)

Preliminary examination – Paper -I

Sr no	Topic	Weightage	Marks Allotted	MCQ 1 mark each	BAQ 2 marks each	SAQ 5 mark each	LAQ 10 mark each
1	Blood	3	27	3	4	10	10
2	CVS	3	27	6	6	5	10
3	RS	3	27	5	2	10	10
4	Renal	2	18	4	4	10	-
5	GIT + AETCOM	2	18	2	6	10	-
Total		13	117	20	22	45	30

Pattern of question Paper –

Question Type	No of Items	Marks	Marks with options
MCQ (1 mark each)	20	20	20
BAQ (2 marks Each)	10	20	22
SAQ (5 marks Each)	8	40	45
LAQ (10 marks each)	2	20	30



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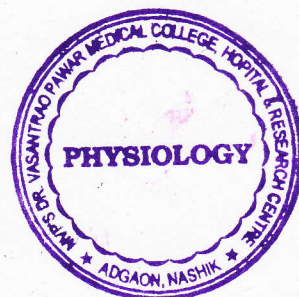
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Preliminary examination – Paper -II

Sr no	Topic	Weightage	Marks Allotted	MCQ 1 mark each	BAQ 2 marks each	SAQ 5 mark each	LAQ 10 mark each
1	Gen. Phy	1	9	4	-	5	-
2	Nerve	1	9	2	2	5	-
3	Muscle	2	18	2	6	10	-
4	Endo	2	18	3	-	5	10
5	Repro	2	18	2	6	10	-
6	CNS	3	27	3	4	10	10
7	Sp. Sen.	2	18	4	4	-	10
	Total	13	117	20	22	45	30

Pattern of question Paper –

Question Type	No of Items	Marks	Marks with options
MCQ (1 mark each)	20	20	20
BAQ (2 marks Each)	10	20	22
SAQ (5 marks Each)	8	40	45
LAQ (10 marks each)	2	20	30



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OSPE FOR BP RECORDING

Total 6 stations - 3 observed stations , 2 rest stations , 1 unobserved station & 3 examiners

Setting – Amphibian lab

Time - 4 minutes per station

Station 1 tie the cuff correctly Station 2 rest

Station 3 record the blood pressure by palpatory method

Station 4 rest Station 5 record the blood pressure by auscultatory method

Station 6 Report your findings of station 3 & 5.

Checklist Station 1 tie the cuff correctly

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Greets the subject and takes consent orally	
2.	Exposes the arm	
3.	Checks the 'zero' on mercury manometer	
4.	Wraps uninflated cuff of sphygmomanometer firmly around the bare upper arm 2.5cm above the elbow joint	
5.	Checks that cuff is neither too tight nor too loose	
6.	Keeps the sphygmomanometer at the heart level	

Checklist Station 3 record the blood pressure by palpatory method

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Greets the subject and takes consent orally	
2.	Exposes the arm	
3.	Checks the 'zero' on mercury manometer	
4.	Wraps uninflated cuff of sphygmomanometer firmly around the bare upper arm 2.5cm above the elbow joint	
5.	Checks that cuff is neither too tight nor too loose	
6.	Keeps the sphygmomanometer at the heart level	

7.	Palpate the radial artery	
8.	Inflates the cuff rapidly until the pressure in it is well above the systolic BP	
9.	Deflates the cuff slowly, releasing pressure at the rate of 2-3 mmHg/sec	
10.	Records the BP first by palpatory method	
11.	Completely deflates the cuff	

Checklist Station 5 record the blood pressure by auscultatory method

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Greets the subject and takes consent orally	
2.	Exposes the arm	
3.	Checks the 'zero' on mercury manometer	
4.	Wraps uninflated cuff of sphygmomanometer firmly around the bare upper arm 2.5cm above the elbow joint	
5.	Checks that cuff is neither too tight nor too loose	
6.	Keeps the sphygmomanometer at the heart level	
7.	Palpate the radial artery	
8.	Inflates the cuff rapidly until the pressure in it is well above the systolic BP	
9.	Checks for the normal functioning of diaphragm of the stethoscope by lightly tapping its diaphragm with a finger	
10.	Places the earpiece of the stethoscope properly into the ears directed forwards and medially along the direction of the ear canals	
11.	Feels the pulsations of brachial artery and then places chestpiece of stethoscope over the arm medial to the tendon of biceps	
12.	Raise the mercury column about 30mm Hg above the systolic BP	
13.	While releasing the pressure check the appearance & disappearance of sounds.	
14.	Releases the pressure from the cuff.	
15.	Expresses the result as a fraction with proper unit.	



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OSPE FOR ECG RECORDING

Station - 1 observed station

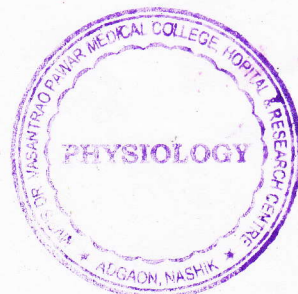
Setting – Clinical lab


Time - 5 minutes per station

Station 1 Record a 12 lead ECG in given subject

Checklist Station 1 Record 12 lead ECG in given subject

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Greet the subject & explain the procedure to subject & takes oral consent	
2.	Ask the subject to lie down on couch comfortably	
3.	Clean the skin thoroughly with alcohol around the left & right wrists & left & right leg just above the ankle joint & applies ECG jelly	
4.	Connect the electrodes in these positions	
5.	Place the chest electrodes in appropriate position on the chest after thorough cleaning & application of jelly	
6.	Switch on the machine & keep stylus at the centre of paper.	
7.	Adjust the sensitivity & get a standard calibration of 1cm/1mV	
8.	Select the lead selection switches to record Lead I,II,III, aVL, aVR, aVF & V1 to V6	
9.	Tear out the paper from the machine & label the record	
10.	Write subjects name, age, sex of patient & date & time of recording	




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OSPE for Hemoglobin estimation

1 station

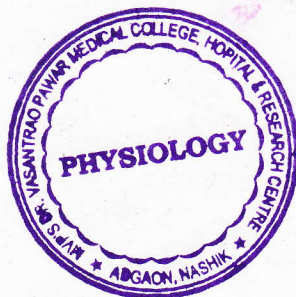
1 examiner


Setting – Hematology lab

Time 15 minutes

Checklist:

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Checks the apparatus for dryness & cleanliness in hemoglobinometer	
2.	Select the Hb tube	
3.	Takes N/10 HCl upto the mark 20%	
4.	Select the Hb pipette	
5.	Takes sterile needle/lancet before pricking	
6.	Applies spirit to ring finger and allows it to air-dry before pricking	
7.	Collects blood in Hb pipette upto 20mm ³ mark	
8.	Wipe the tip of the tube	
9.	Blow the blood into acid solution in Hb tube and ensures complete wash out of the blood by repeated drawing in & blowing out of diluting fluid	
10.	Note the time and wait for 10 minutes for acid hematin formation	
11.	Mixes the acid hematin while adding distilled water drop by drop	
12.	Matches the colour of diluted solution to comparator against natural light after lifting up the stirrer	
13.	Writes Hb in gm% & %reading accurately with proper units	




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OSPE for Red BLOOD CELL COUNT.

1 station -

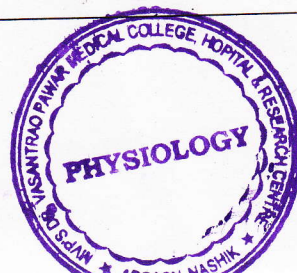
1 examiner -

Setting – Hematology lab -

Time - 30 minutes -

Checklist: -

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Checks whether pipette in hemocytometer is a RBC pipette by markings over it	
2.	Checks for dryness of RBC pipette	
3.	Attaches tubing to RBC pipette	
4.	Makes sure that RBC diluting fluid is available	
5.	Pour the RBC diluting fluid in a watch glass	
6.	Takes sterile needle/lancet before pricking	
7.	Apply spirit to ring finger and allows it to air-dry before pricking.	
8.	Collects blood in RBC pipette from big drop of blood on the tip of figure, up to 0.5 mark.	
9.	Sucks diluting fluid up to 101 mark.	
10.	Mixes blood and diluting fluid by rolling the pipette between palms.	
11.	Focus the Central squares under high power(40X) of microscope.	
12.	Charge Improved Neubauer's Chamber correctly without errors. Avoid undercharging OR overcharging.	
13.	Mount the Neubauer's Chamber on stage of microscope already focused. Adjust any one corner square among 25 squares.	
14.	Counts RBCs in four corner squares and one central square following rule of 'L'.	
15.	Marks count on answer paper correctly.	
16.	Makes calculation by multiplying with dilution factor and area of squares & then convert it in to per mm ³ .	
17.	Writes final Total Leucocyte/WBC count in per cubic mm of undiluted blood	



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OSPE for blood group estimation

1 station

1 examiner


Setting – Hematology lab

Time 15 minutes

Checklist:

SR.NO.	POINTS TO BE OBSERVED	YES /NO
1.	Checks the spot tile, droppers for dryness & cleanliness	
2.	Label the spot tile	
3.	Deliver 2 drops of serum anti A, anti B, citrated normal saline in to depressions labeled as A, B ,C respectively	
4.	Uses separate droppers for each fluid	
5.	Deliver 4 drops of citrated normal saline in petridish	
6.	Takes sterile needle/lancet before pricking	
7.	Applies spirit to ring finger and allows it to air-dry before pricking	
8.	Transfer 2 drops of blood in to petridish & mixes it well to make cell suspension	
9.	From cell suspension , transfer a drop of its content to each depression A,B , C and on a plain glass slide with anti -D	
10.	Keep the content well mixed by blowing & observes after 10 minutes for agglutination.	
11.	Writes interpretation of experiment .	




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OSPE FOR TOTAL LEUCOCYTE COUNT

1 station

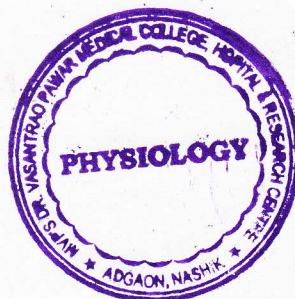
1 examiner

Setting – Hematology lab

Time 15 minutes

Checklist:

Sr.No	POINTS TO BE OBSERVED	YES /NO
1	Checks whether pipette in hemocytometer is a WBC pipette by markings over it	
2	Checks for dryness of WBC pipette	
3	Attaches tubing to WBC pipette	
4	Makes sure that WBC diluting fluid is available	
5	Takes sterile needle/lancet before pricking	
6	Applies spirit to ring finger and allows it to air-dry before pricking	
7	Collects blood in WBC pipette upto 0.5 mark	
8	Sucks diluting fluid upto 11 mark	
9	Mixes blood and diluting fluid by rolling between palms	
10	Charges Improved Neubauer's Chamber correctly without errors	
11	Focuses Improved Neubauer's Chamber under Low power objective lens properly	
12	Counts WBCs in four large corner squares following rule of 'L'	
13	Marks count on answer paper correctly	
14	Makes calculation by multiplying with dilutional factor	
15	Writes final Total Leucocyte/WBC count in per cubic mm of undiluted blood	



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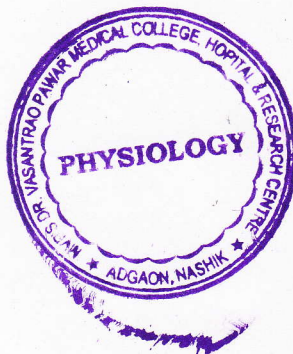


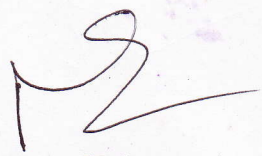
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OBJECTIVE STRUCTURED PRACTICAL EXAMINATION (OSPE)

Aim: To prepare and stain the peripheral blood smear for determination of differential leucocyte count.(DLC)		
Checklist		
1	Select four clean glass slides	(Yes/No)
2	Take a small drop of blood on each slide on one end	(Yes/No)
3	Puts the spreader on the surface of the slide just in front of the blood drop at an angle of 45 degree.	(Yes/No)
4	Draws the spreader gently backwards and allows the blood to run along its full length	(Yes/No)
5	Moves the spreader slowly and smoothly to the other end of the slide.	(Yes/No)
6	Selects one or two ideal smears and places them horizontally on parallel glass rods	(Yes/No)
7	Pours Leishman's stain on each slide, just enough to cover the smear and wait for 2 minutes.	(Yes/No)
8	Adds equal number of distilled water evenly taking care that water is not spilled over.	(Yes/No)
9	Mixes the stain and water evenly by gently blowing air intermittently with the help of dropper and waits for 10 minutes.	(Yes/No)
10	Pours off the stain and hold the slide in slanting position below slow running tap water.	(Yes/No)
11	Washes the slide gently with tap water and set it upright to dry.	(Yes/No)
12	Selects the properly stained smear and focuses under oil immersion objective lens properly	(Yes/No)
13	Counts the cells by scanning the slide in zigzag manner	(Yes/No)




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