DA-003-001658 Seat No. _____

B. Sc. (Forensic Science) (Sem. VI) (CBCS) Examination

April / May – 2015

FS-602 : Ballistic & Explosive

Faculty Code : 003
Subject Code : 001658

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (i) This question paper contains three questions. All are compulsory.

(ii) Draw neat and labelled diagrams wherever necessary.

(iii) Figures to the right indicate marks.

1 Multiple choice questions : **20**

(1) The ignition was initiated in match lock firearm through

(A) Muzzle end (B) Chamber

(C) Flash pan (D) None of the above

(2) From following which is not the action characteristics of firearm ?

(A) Lever action

(B) Pump action

(C) Bolt action

(D) Repeater action

(3) Walker test of GSR is done to detect the presence of

(A) Lead

(B) Nitrite

(C) Sulphate

(D) Iodine

(4) Which explosive is not nitro-aromatics explosive ?

(A) TNT (B) PETN

(C) DNT (D) DNB

(5) The decomposition of the detonating explosives is initiated by _____.

(A) Pressure (B) Shock wave

(C) Heat (D) Radiation

(6) Which of these are individual characteristics ?

(A) Caliber

(B) Direction of twist

(C) Striation

(D) Shape of extractor mark

(7) The side way shift of the projectile from the plane of departure is called _____.

(A) Drift (B) Jump

(C) Yaw (D) Recoil

(8) The diameter of shotgun chamber is

(A) Equal to the cartridge diameter

(B) Slightly more than cartridge diameter

(C) Equal to the bullet diameter

(D) Slightly less than the cartridge diameter

(9) Which component is used for shock absorber or compress to provide cushioning effect under pressure in shotgun cartridge?

(A) Cushion wad (B) Pellets

(C) Air cushion wad (D) All of the above

(10) Which are the compositions of the primer ?

(A) Initiator (B) Fuel

(C) Stabilizer (D) All of the above

(11) Amatol means _____.

(A) RDX+Ammonium Nitrate

(B) TNT+Barium Nitrate

(C) TNT+Ammonium Nitrate

(D) RDX+Barium Nitrate

(12) The path travelled by projectile is called _____.

(A) Recoil (B) Jump

(C) Trajectory (D) Yaw

(13) The hot gases are for _____ second in contact with barrel.

(A) 1 (B) 0.001

(C) 0.0001 (D) 0.01

(14) The use of fire arm started probably in _____ century.

(A) 14^{th} (B) 16^{th}

(C) 18^{th} (D) 20^{th}

(15) Who introduced dynamite ?

(A) Lamount (B) Herin

(C) Willbrand (D) Alfred Nobel

(16) Which bullet is used to study the trajectories ?

(A) Tracer bullet

(B) Stream lined bullet

(C) Incendiary bullet

(D) Boat-tailed bullet

(17) The content of potassium nitrate in the black powder is _____.

(A) 70% (B) 72%

(C) 75% (D) 78%

(18) The lands and grooves of rifled firearm can vary in _____.

(A) Direction of twist (B) Depth

(C) Twist angle (D) All of the above

(19) Rifling of the barrel is responsible for the

(A) Spin of the bullet

(B) Stability of the bullet

(C) Increase the aim and accuracy

(D) All of the above

(20) The shotgun which has barrel with rifling is called as _____.

(A) Rifled (B) Paradox gun

(C) Shot gun (D) None

2 Give the answers of following questions as per instruction :

(a) Write any three out of six : **6**

(1) Define : bore and caliber.

(2) What is choking and types of choking according to degree of choking ?

(3) Duplex bullet and paradox bullet.

(4) What is lock time and barrel time ?

(5) Retardation due to air, depends upon what ?

(6) List out the marks observed on fired cartridge.

(b) Write any three out of six : **9**

(1) Explain : match lock gun and wheel lock gun.

(2) Classification of shot gun family.

(3) Explain twist and pitch and why rifling is necessary ?

(4) Types of cartridge case on the basis of the base configuration of cartridge case.

(5) Composition of single base powder formation of NG and NC.

(6) Explain wads and lubricants.

(c) Write any two out of five : **10**

(1) Determination of range of fire on the basis of characteristics of entry wound of rifled firearm injury.

(2) Explain pressure function as a parameter of study of internal ballistic.

(3) How does the structure of projectile affect the trajectory of projectile ?

(4) Instrumental methods used for the analysis of GSR.

(5) Principle involved in the identification of firearms.

3 Give the answers of following questions as per instruction :

(a) Write any three out of six : **6**

(1) Parameters to be measured in BIDAS.

(2) Price spot test for the detection of GSR.

(3) Define : Ramroad and sear.

(4) What is yaw and base drag ?

(5) What is sectional density of projectile ?

(6) Full name of : BIDAS and IBIS.

(b) Write any three out of six : **9**

(1) Explain the types of bullets on the basis of heel shape.

(2) Explain heat problems observed during the study of internal ballistic.

(3) Classification of bullets.

(4) Characteristics of entry wound of fire arm injury.

(5) Types of spherical projectile and its manufacturing process.

(6) Wet methods for the collection of GSR.

(c) Write any two out of five : **10**

(1) Write a note on barrel of rifled fire arm and techniques to introduce the rifling.

(2) Explains the powder grains used as propellant charge.

(3) Write a note on BIDAS.

(4) Write a note on types of choking.

(5) Marks observed on fired cartridge case.
